THE DENTAL Digest

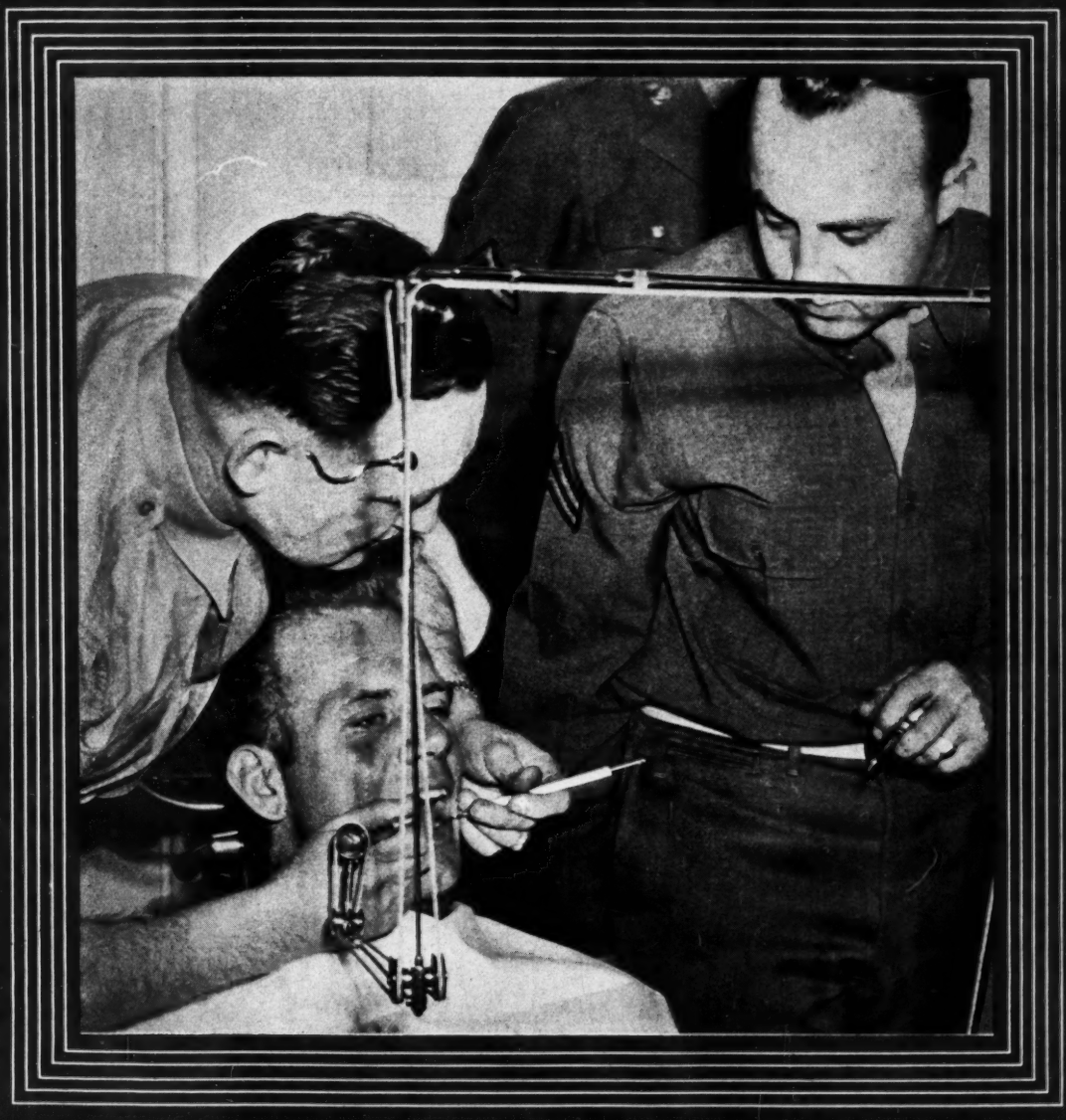

Photo taken during instruction of War Surgeons and Surgeons' Assistants in Chicago.

JANUARY, 1943

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THE DENTAL Digest

VOL. 49 NO. 1

JANUARY 1943

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EDWARD J. RYAN, B.S., D.D.S., *Editor*
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708 *Church Street, Evanston, Illinois*

About Our CONTRIBUTORS

GREGORY B. SALISBURY, D.D.S. (Temple University School of Dentistry, 1934) received the Alumni Award for leading his class for four years. Doctor Salisbury has been a contributor to the literature and is at present engaged in the preparation of a textbook on acrylic materials. The article in this issue is a preliminary report. Another is soon to follow which will include photomicrographs showing polymerization at room and mouth temperatures, and refinements of technique.

WALTER H. JACOBS, B.S. (Columbia University, 1925), D.D.S. (Columbia University School of Dental and Oral Surgery, 1929) last wrote for this magazine in October, 1934, on THE PAINFUL SOCKET AND ITS TREATMENT. His present article suggests a simple and satisfying procedure for esthetic improvement which Doctor Jacobs likes to refer to as "sculptodontia."

JEROME M. SCHWEITZER, D.D.S. (New York University College of Dentistry, 1918; B.S., College of the City of New York, 1927) adds another clinical title here to the long list with which The DIGEST audience is agreeably familiar.

JEROME J. PAVLIGER has his D.D.S. from the University of Nebraska (1932). The problem of lighting received Doctor Paviliger's attention in his article on THE PATIENT'S HEADLIGHT (this publication, November, 1942). Now he turns his mechanical interest to a precision method of measuring x-ray planes.

J. BARDIN GOODMAN received his D.D.S. from the New York University College of Dentistry, class of 1929. Another general practitioner, Doctor Goodman presented an article here in May, 1941, on the use of hydrocolloid impressions for indirect inlays. This month he offers a technique for a square cast crown.

PERLEY J. LESSARD, D.D.S. (University of Maryland, 1921), a general practitioner, continues his interest in acrylics in this issue. In May, 1941, the possibilities of the new material were described in a technique for a combination removable bridge.

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Application of Methyl Methacrylate to the Tooth: Cured at Mouth Temperature

GREGORY B. SALISBURY, D.D.S., Philadelphia

DIGEST

A new application of methyl methacrylate is described in a technique whereby methyl methacrylate is packed directly into cavities and cured at mouth temperature.

The modifications of the technique are given for occlusal, gingival third, and proximal cavities, in bicuspids and molars, anteriors, and the incisal angle.

A NEW APPLICATION of methyl methacrylate is had in a technique whereby methyl methacrylate is packed directly into cavities and cured at mouth temperature. The technique is the result of years of experimentation: The original clinical restorations have been in my mouth for a year; the improved restorations, for half a year. All have been subjected to abnormal stresses, unfair conditions, the pulp tester, thermal changes, removal, and inspection of the pulpal seat area by means of stimuli, smears, and cultures. No seepage owing to shrinkage of margins was detected, and sterility of the seat proved that the cavity remained hermetically sealed. Attempts to dislodge or nick the restorations with sharp instruments have failed.

Advantages

Methyl methacrylate is superior to silicate, both in the wide range of blending possible for esthetics, and in permanence. It is strong enough for posterior masticatory stresses. Elimination of cement removes the glaring weak point of both the gold and the acrylic inlay. The time consumed in completing the restoration is brief and saves hours of laboratory and operative procedures.

Fig. 1—Materials. Mix monomer and polymer for one minute.

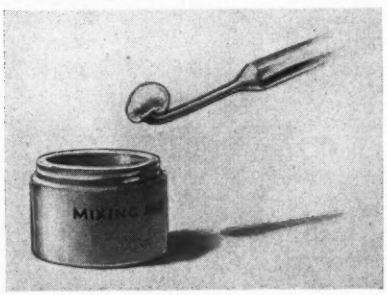

Fig. 2—When mix looks like a lump of wet sand, remove from jar.

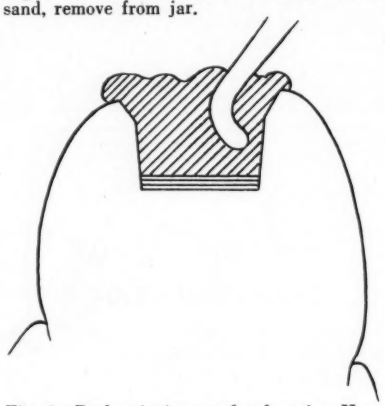

Fig. 3—Pack mix into occlusal cavity. Have plenty of excess.

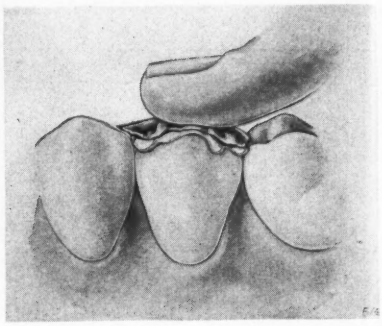

Fig. 4—With finger, press foil over acrylic excess for five minutes.

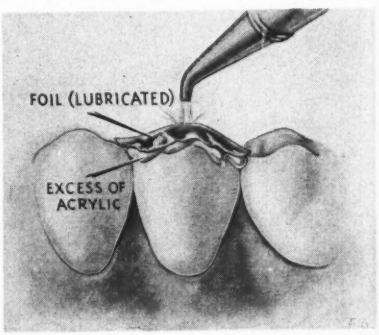

Fig. 5—Follow with a continuous blast of warm air.

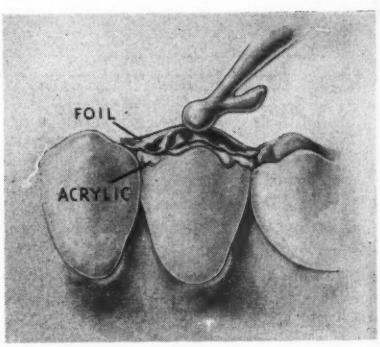

Fig. 6—Roll a warm ball burnisher over the surface until it is hard.

Technique for Occlusal Cavities

The cavities in the posterior teeth are prepared as for an amalgam restoration. There should be no short cuts or indifferent results in operative procedures. A cement base is an essential step, to protect the pulp from any unpolymerized monomer. Allow for bulk of acrylic material, and observe the rules of retention, without undermining the cavity walls. Dryness must be maintained to insure sterility of the tooth; the plastic, however, once inserted and exposed to air, must be coated with cocoabutter. It is not advisable to use varnishes or linings, because they con-

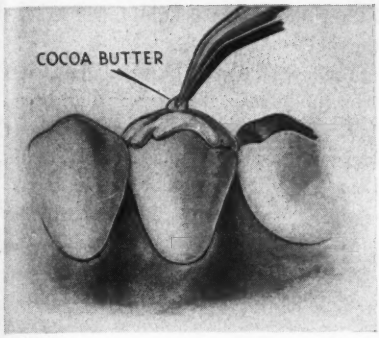

Fig. 7—Lubricate with cocoabutter. Allow patient to wait.

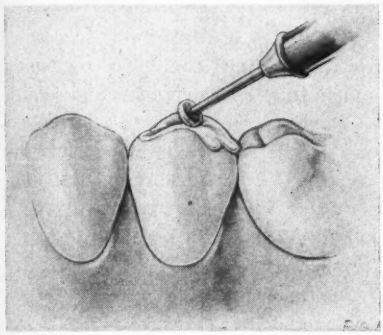

Fig. 8—After patient has rested in waiting room for half an hour, with lubricated stone, trim off excess; adjust the bite.

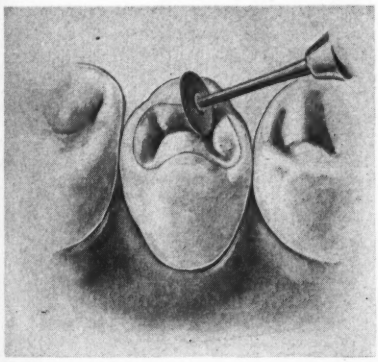

Fig. 9—Two days later, carve and polish with lubricated stones, wheels at low speeds.

tain solvents that are injurious to methyl methacrylate.

An occlusal cavity is the easiest type to restore:

1. The polymer and the monomer are mixed in a jar for a minute, after a saturation has been effected. The resulting appearance is that of wet sand. Pat into a lump.

2. Plastic instruments, preferably of stellite, are used to pack the sandy mass quickly into the cavity. This mass should be greatly in excess of the needed amount to allow for compression, preferably with the finger. Remove the finger until the overhang appears hard, which takes about five minutes.

CAUTION: Do not add plastic in pieces as in other types of restorative material, because it will be difficult to make the pieces coalesce. The acrylic mix hardens rapidly at mouth temperature; therefore, work rapidly.

3. Pack the material against the walls, and condense the mass thoroughly to prevent air spaces and future excessive shrinkage.

4. When the cavity is filled completely, work the excess into a compact mass.

5. Slightly lubricate a piece of tin foil, of thicker gauge than that used in foiling acrylic cases. The lead backing of x-ray films is excellent for this purpose. With the foil placed over the mass, compress, using the finger as a plunger. Hold tightly and do not release the pressure until the hardness of the material is felt. It may take several minutes.

6. Remove the finger and direct a steady flow of warm air from the unit chip blower over the foiled restorative material. Do not overdo this, as too warm a blast will irritate the pulp.

7. Go over the foil with a warm ball burnisher, and when satisfied with the hardness of the restoration, remove the foil, lubricate the plastic, and ask the patient to sit in the waiting room for a few minutes, if the restoration is small; for half an hour, if it is large.

8. Recall the patient, and with a lubricated stone, remove the excess to restore the normal closure.

9. Trim the overhang of the plastic material. Dismiss the patient.

10. Two days later, carve and finish the restoration, without creating too much heat. Use slow speeds at all times.

Technique for Buccal and Lingual Cavities

1. In restoring the buccal and the lingual cavities of the posteriors a compound matrix, similar to one frequently used with silicates, is recommended.

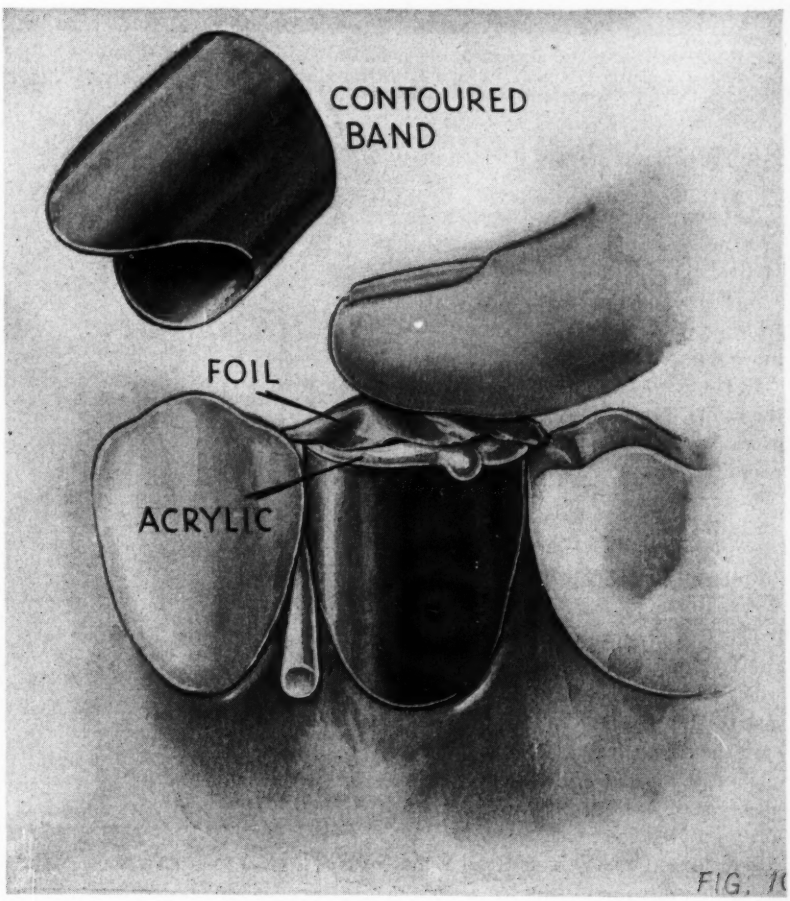

Fig. 10—Application of technique to proximal cavities in posteriors.

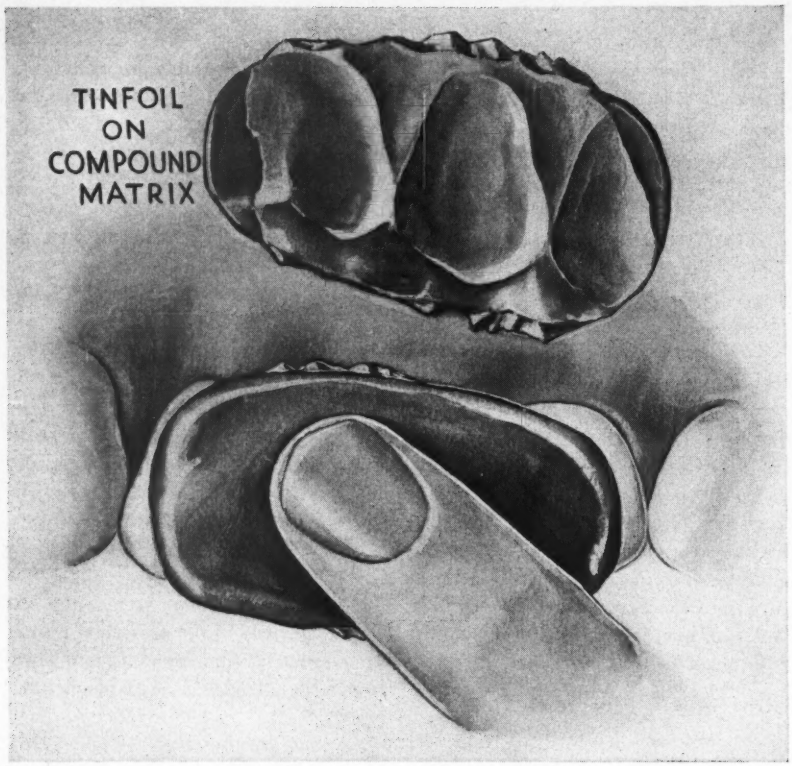

Fig. 11—Application of technique to buccal and lingual surface cavities of posteriors. Tin-foil the compound matrix and pack the buccal (or lingual) of posteriors to an excess with the acrylic material. Press the matrix against the teeth for five minutes.

2. The cavity is over-filled with gutta-percha.

3. Compound is pressed against the area and at least one tooth on each side is covered.

4. The compound is chilled, removed, trimmed, and slightly lubricated. Remove the gutta-percha.

5. The acrylic mass is introduced into the cavity, properly packed in with an excess, and compressed with the compound matrix.

6. It is completed as previously described.

Technique for Gingival Third Cavities

Gingival third cavities are similarly restored, unless there is easy access, in which case the regular celluloid tubular matrix may be used. With this, great care should be exercised. It should be slightly lubricated prior to using, and once placed against the tooth, it must not be moved inasmuch as movement will dislodge the acrylic material from the cavity. A warm blast of air, kept up for some time, followed by a warm burnisher over the celluloid, will harden the mass sufficiently.

Remove the matrix after that, and trim the restoration after half an hour.

If compound is used, wait at least five minutes before removing it. A safe idea is to foil the surface of the matrix, slightly lubricate it, and compress the plastic in that way. This will enable the operator to burnish the plastic with a hot burnisher, after easy removal of the compound.

Technique for Proximal Cavities

Bicuspids and Molars—1. In restoring the proximal cavities of bicuspids and molars, the matrix band and retainer should not be used until a faster-setting acrylic resin is developed for this purpose. Use a well-contoured, thin copper band, soldered satisfactorily, or a well-fitting, ready-made band, properly trimmed.

2. Previous separation is imperative.

3. Adapt the copper carefully at the gingival seat, and use an orangewood wedge to prevent the excess from going under the gum tissue.

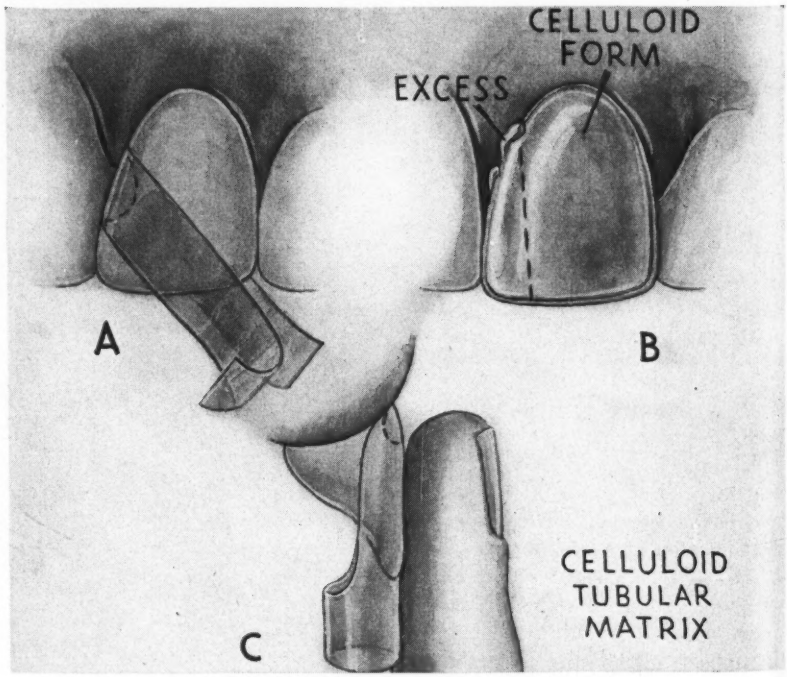

Fig. 12—Application of technique to anterior cavities.
A, Lubricated strip held over excess of acrylic mix for five minutes. Warm air syringe and hot burnisher are used next in order.
B, Lubricate the form; fill with the mix on the half needed; press over filled corner; push up into place. Trim excess; correct the bite; finish two days later.
C, Pack to an excess. Compress gingivals with matrix. Hold for five minutes. Burnish celluloid with a hot instrument. Use warm air before removing finger.

4. Pack the methyl methacrylate mass, under proper compression, overfill, and press with the ball of the thumb over a lubricated piece of tin foil.

5. Wait five minutes, then use warm air and a hot burnisher over the foil.

6. Remove the orangewood wedge, and let the patient wait in the reception room for half an hour.

7. If the band fits accurately on the occlusal, as it should, clearing the bite, the excess is trimmed off, and the patient dismissed.

8. The band remains on the tooth for two days, after which time, it is removed, and the acrylic trimmed to the proper contour.

My experience with mechanical retainers and bands has been uncertain. Some of the restorations came out on removal of the matrix, because the surface hardness did not correspond to the inner hardness of the material. The mass was elastic, and did not remain in place. This was especially true with a dough-like acrylic mix instead of a lumpy sandy mix.

Anteriors—In restoring proximal cavities of anteriors, which do not involve the incisal angle, follow the technique for silicates throughout. The only difference in the technique is that the celluloid or the compound matrix or strip is slightly lubricated, and when surface hardness results, hot air and a hot burnisher are used over the strip; or, tin foil is used, if the compound matrix is used. Overfill so as to be able to trim off the grainy, coarse surface to have a smooth texture for the restoration.

If the cavity is large and involves the use of two shades, pack two shades of the acrylic material, and excellent results will be obtained. Be precise in the matching of shades.

Incisal Angle—Restoring the incisal angle is fairly simple.

1. Obtain separation on both sides of the tooth to be restored to proper anatomy.

2. Adapt a celluloid form, as well as possible over the tooth.

3. Trim off the celluloid which may prove annoying to the patient.

4. Fill the half of the form corresponding to the side to be restored.

5. Pack the acrylic into the tooth.

6. Force the form over the tooth, and compress the mass into the cavity preparation.

7. Squeeze out the gross excess, and adjust for the bite while the mass is still plastic.

8. Hold firmly for five minutes.

9. Follow by use of hot air and burnisher. Dismiss the patient for two days.

10. Finish as previously described.

Comments

Follow this technique in restoring the broken off facings from fixed restorations, such as difficult trupontic cases, Richmond crowns, and old porcelain veneer crowns.

Previous experiments with accelerators were inconclusive or adverse. The incorporation of accelerators in the mass, or in the setting surface, produced a poor texture. Their supposed acceleration of the setting time did not materialize; but the untampered mass set rapidly without them. The use of ultraviolet was found needless. Pure oxygen, passed through the mass as it was setting did no appreciable good. Experiments are now being conducted on fast-setting plastics, partly polymerized monomers, and a report on the observations will soon be given. Use of a dough-like mix instead of the wet sand mix has produced a slower curing. Experiments with the dough-like mix and the use of accelerators are now being tried. Matrix holders instead of copper bands are also being tried.

At present research is being conducted in the field of immediate, direct acrylic jackets. Several patients with small pegged laterals are carrying celluloid forms filled with methyl methacrylate, which have been forced over the teeth. These harden sufficiently during appointments to allow the patient to be dismissed. So far the plastic material has been cured nicely at mouth temperature. The forms have not yet been removed from the mouth. Success is anticipated, because testing of the acrylic restoration at the gingival proved that the curing achieved practical hardness.

Another case of a fractured incisor is being treated along similar lines.

Forty-Ninth and Locust Streets.

National Dental Salvage Program

Organization

The Dental Salvage Program is headed by the American Dental Association Salvage Committee, consisting of a Chairman and four members. Dental Salvage Committees will be appointed within each State, consisting of a Chairman and several members. The chairmen of the State Committees should select representatives from the dental dealers and dental laboratories within their respective areas, to cooperate with the committees. In States where the National Dental Association (Negro) has members, the Committee should request their cooperation.

All dental offices should be included in the program whether or not the dentist is a member of the American Dental Association.

Members of State Committees should communicate with the General Salvage Committees in their communities and advise them of this program and request their support.

Salvage Materials Required

The salvage materials from dental offices should include the following items:

Rubber—Dam, tubing, hose, mats, bulbs from water and air syringes, washers, rubber tips from ends of anesthetic tubes, unvulcanized scrap.

Metal—1. Lead backings from x-ray films. Old copper and aluminum bands and scrap clippings therefrom.

2. Electro-deposited copper dies and models.

3. Scrap tin foil or lead foil.

4. Old electric wire.

5. Metal tubing (copper, tin, iron, and brass).

6. Broken or discarded steel operating instruments.

7. Discarded burs, mandrels and mounted points.

(*Continued on page* 47)

Simple Esthetic Improvement of Anterior Teeth

WALTER H. JACOBS, D.D.S., New York City

DIGEST

Simple grinding of anterior teeth is recommended as a routine procedure to eliminate minor irregularities and thus accomplish esthetic improvement.

MANY PATIENTS present themselves for dental treatment with clean, healthy, strong teeth, having had regular periodic dental care, but nevertheless have marked irregularities of form and shape of the anterior teeth. Especially is this true in the case of irregularities of the lower anterior teeth, where there has been a slight crowding, so that these teeth are in labial and lingual version (Figs. 1, 3, and 5). The teeth to the lingual usually appear to have erupted higher than those to the labial, so that the incisal edges present a saw-like surface.

In the upper anterior teeth, noticeable irregularities of the incisal edges are also found. In some cases the lateral incisors may be longer than usual; one may be longer than the other, or the point of one cuspid may be longer or sharper than the other (Figs. 7 and 9).

After the teeth and soft tissues have been examined and cared for, the dentist should observe the anterior teeth for possible esthetic improvement. Such improvement can be effected quickly by judicious and careful grinding, cutting, reshaping, smoothing, and polishing of the teeth, so that they approach the normal dental anatomy of the region. This should be routine in dental practice to bring about a pleasing appearance of the anterior teeth.

In addition to the fine esthetic effect, it may be found that tongue interference in speaking and eating caused by the irregularities is eliminated by the removal of those irregularities.

Armamentarium

After the tooth has been treated with

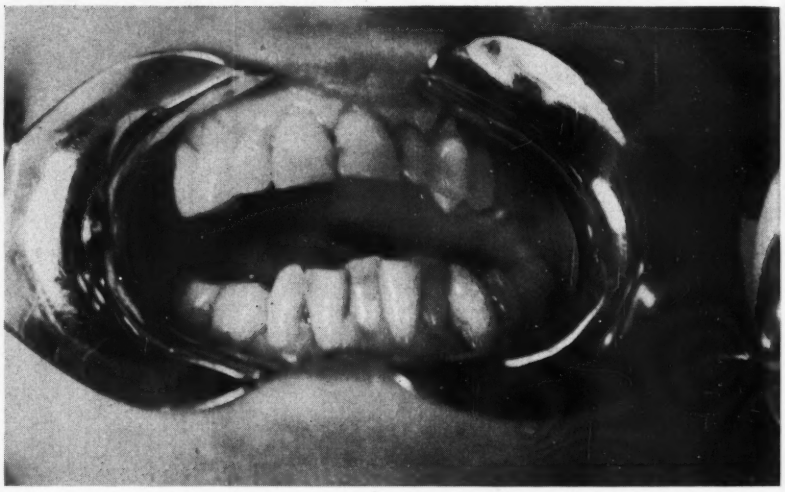

Fig. 1—Irregularity of incisal edges of lower anterior teeth.

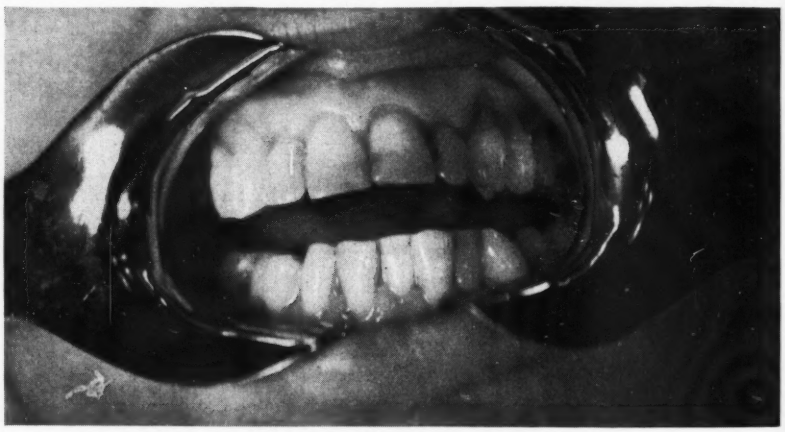

Fig. 2—Appearance after simple grinding treatment.

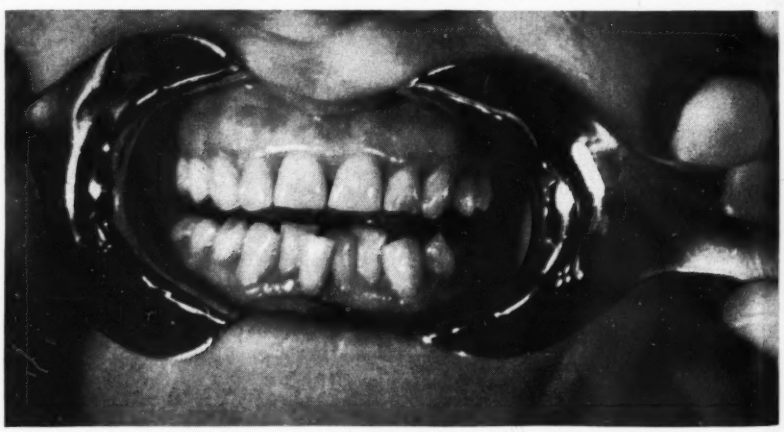

Fig. 3—Incisal irregularities of upper and lower anterior teeth; unpleasant appearance.

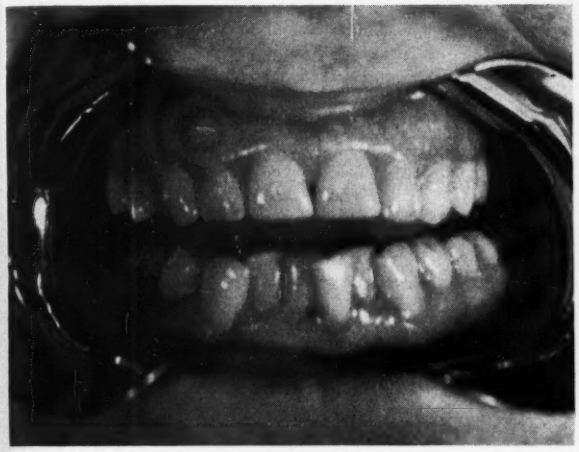

Fig. 4—Same case after treatment.

Fig. 5—Incisal irregularities before simple grinding treatment.

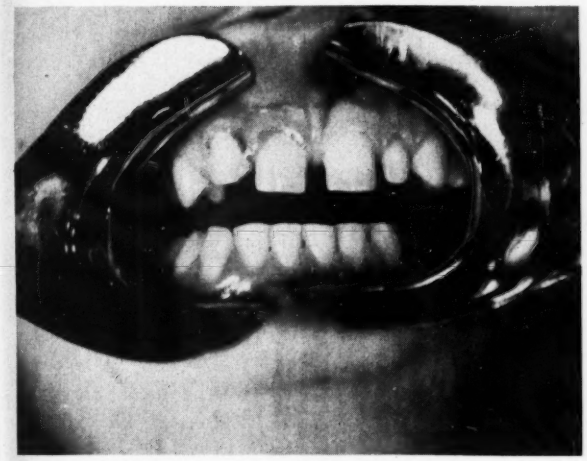

Fig. 6—Same case after treatment for esthetics.

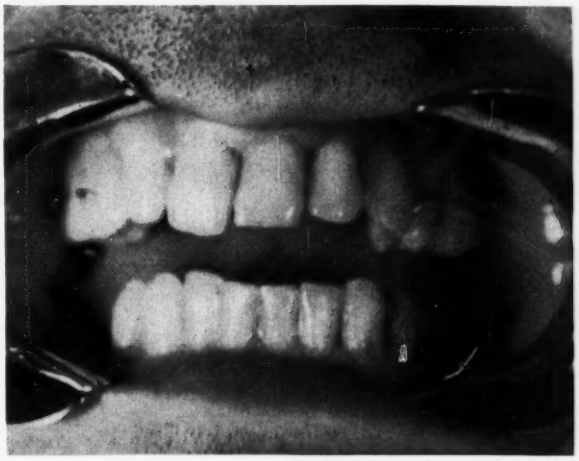

Fig. 7—Unpleasant appearance due to incisal irregularities. Particularly note elongated upper right central incisor.

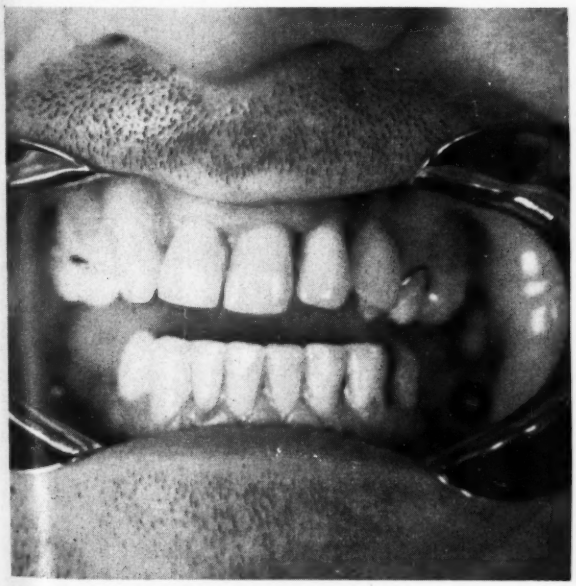

Fig. 8—After treatment.

Fig. 9—Marked incisal irregularities with pointed and elongated upper and lower cuspids.

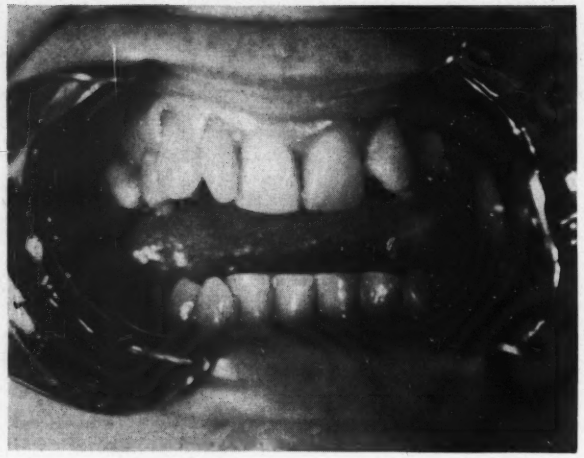

Fig. 10—Fine esthetic appearance after treatment.

Fig. 11—Marked incisal irregularities of upper and lower anterior teeth. Peg-shaped upper lateral incisors.

heatless stones, small mounted stones and separating discs, the newly exposed surfaces should be smoothed and polished with rubber wheels and fine sandpaper discs.

To finish the newly exposed areas and to retain a high polish a tin oxide paste applied with a small felt wheel should be used.

Comments and Cautions

Needless to say a knowledge of normal dental anatomy is a prerequisite to this simple treatment. The operator should know in advance the esthetic result that he seeks to obtain. He must realize the limitations of the amount of tooth structure that he may safely remove without endangering the pulp. He must bear in mind that the removal of too much tooth structure will make the tooth sensitive to temperature reactions. At all times he must keep in mind the proximity of the pulp to the surface that he is reshaping. In some cases in which a considerable portion of the tooth is to be removed, the entire treatment should not be undertaken in one appointment.

124 *West Ninety-Third Street.*

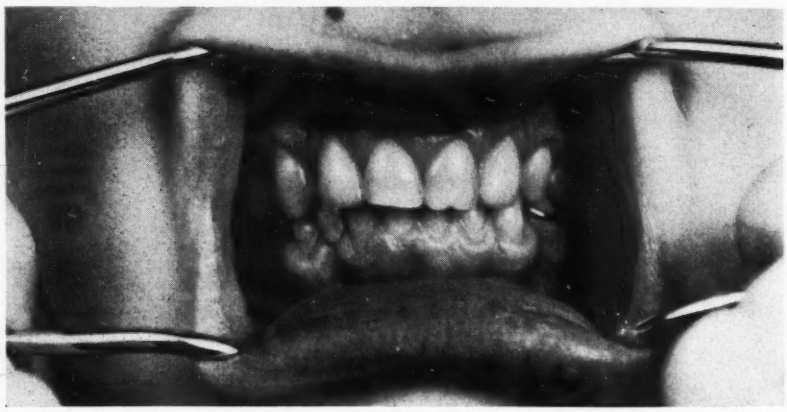

Fig. 12—Porcelain jacket crowns over peg-shaped lateral incisors. Grinding was done for esthetics.

DENTAL MEETING *Dates*

District of Columbia Dental Society, second and fourth Tuesdays in each month, from October to June at the United States Public Health Service Auditorium, Washington.

Alumni Society of the Philadelphia Dental College, annual meeting, Kugler's Restaurant, Philadelphia, February 2.

•

The Greater Philadelphia Annual meeting, Benjamin Franklin Hotel, Philadelphia, February 3-5.

•

Annual Alumni Day meeting, College of Dental and Oral Surgery of New York and School of Dental and Oral Surgery of Columbia University, at the Dental School, 630 West 168th Street, New York City, February 12, 1943.

The New York Society for Oral Diagnosis, regular meeting, Squibb Hall, 745 Fifth Avenue, New York City, February 17.

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Chicago Dental Society, Palmer House, February 22-25, 1943.

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Pacific Coast Society of Orthodontists, San Francisco, Calif., February 22-24, 1943.

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Five State Postgraduate Clinic, Mayflower Hotel, Washington, D. C., March 5-8.

Occlusal Reconstruction

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DIGEST

The procedure is described and illustrated which was followed in a case of extensive occlusal reconstruction in the mouth of a woman who had progressive decalcification.

A WOMAN, aged 40, in good health, has been under my observation for the last ten years, during which time the enamel of all the teeth has been gradually wearing away. The upper and lower anterior teeth and the bicuspids are affected more than the remaining teeth. The third molars are not present. The two lower first molars were replaced eight years ago by two broken stress inlay fixed bridges, extending from the lower second molars to the lower second bicuspids. What initiated the decalcification is not known. The patient's habits are normal and regular. Her diet includes a variety of all the necessary foods. The teeth have become sensitive to sweets and acids of any kind. The wearing away of the enamel has been more extensive and more rapid in the last three years. This may be due to the rapid abrasion that the softer dentine permits once the harder enamel has been removed. This chemical process could take place by the action of some dissolving medium within the liquid saliva. Fig. 1 shows the appearance of the teeth three and a half years ago, before reconstruction was undertaken. If this illustration is compared with Fig. 11, showing the case at the start of treatment, or with the models of the case when treatment was instituted (Figs. 2, 3, 4, 5), it will be apparent immediately that the teeth have become smaller in a relatively short time. The wearing away of the buccal surfaces of the lower left bicuspids permitted these teeth to move farther lingually than normal, which is evident if the models are examined.

Fig. 1—Full face view taken three and a half years before reconstruction was undertaken. Compare this with Fig. 11, which was taken just before starting the case, to see the amount of tooth destruction which has taken place in three and a half years.

Figs. 2, 3, 4, 5—Front, left side, and occlusal views of stone models made from hydrocolloid impressions. These models were duplicated.

Another interesting feature which this case presents is the shifting to the right of the median line. A right functional bite has been established, so that the entire mandible has shifted toward the right in mastication. During this process the bite closed, so that it would have been mechanically impossible to restore the teeth to the normal shape and contour without again restoring the vertical dimension, in order to gain the necessary room for introducing anterior porcelain jacket crowns. With the functional bite released by freeing the mandible from its locked relationship with the maxillae, the entire mandible may again swing toward the left side, thus correcting the median line. Anterior porcelain restorations and posterior inlays dropped out as the tooth structure disappeared; thus it finally became necessary to reconstruct the entire dental apparatus.

Preparatory Steps

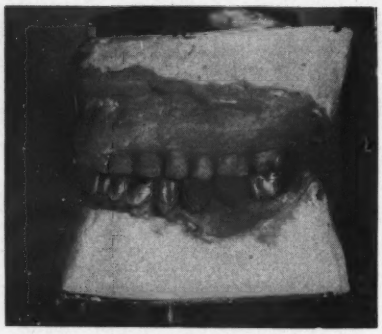
A full series of roentgenograms was taken. This included roentgenograms of the condyles. Photographs were taken. Hydrocolloid impressions were taken and accurate stone models were poured. These models were duplicated and then mounted, one for a working set; the other, for study. Under conduction anesthesia the lower left bridge was removed.

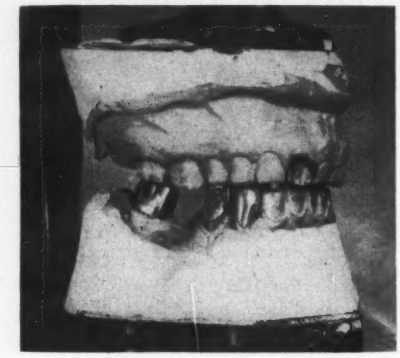
Procedure of Reconstruction

Lowers—1. The second molar was prepared for a full cast crown.

2. The lower second left bicuspid was prepared for a full cast crown

Fig. 5





Figs. 6 and 7—Right and left posterior castings in position on the models, showing extent of change in vertical dimension.

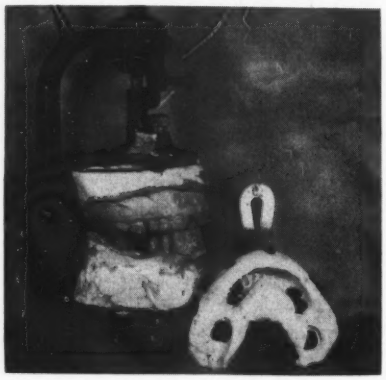


Fig. 8—New plaster impression. Lower bridges completed upon this model. This model substituted for the old working model by a new wax bite.

which would receive a buccal acrylic inlay. These two preparations were paralleled to each other in order to support a fixed bridge which would replace the lower left missing first molar.

3. The lower left first bicuspid was then prepared for a porcelain jacket crown.

4. Next in turn the lower right bicuspids and the molars were prepared in a similar manner as the left side. This was also done under conduction anesthesia.

5. A wax bite was taken at a height a little more than half the distance to which the vertical dimension was to be raised.

6. Accurate copper bands were made for all the prepared teeth.

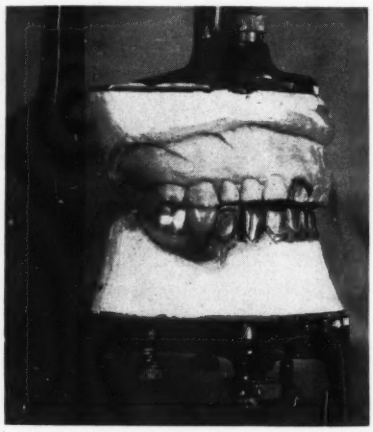
7. Impressions were taken in these copper bands with modeling compound, and amalgam dies were packed.

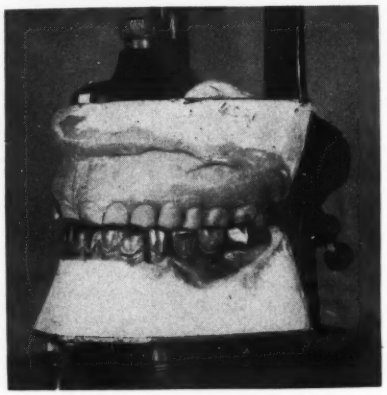
8. A good red wax impression was taken of the entire lower arch.

9. The finished amalgam dies were placed in their respective places in this red wax lower impression, and a stone model was poured.

The lower master model was removed from the balancer and the new lower working model was substituted for it by means of the wax bite previously taken in the mouth.

10. The castings previously described were now made for these six posterior teeth. These castings were taken back to the mouth and tried on their respective teeth. They were not quite high enough, and therefore, a new bite was taken. A plaster impression was taken of the entire lower and a new working model was made. The lower working model was





Figs. 9 and 10—Lower posterior bridges completed upon the new working model.

Fig. 11—Lower prepared teeth protected during reconstruction by means of aluminum crowns filled with gutta-percha and medicated with validol. Anterior teeth and upper teeth have not yet been treated. Notice severe anterior erosion which took place in three and a half years. Compare with Fig. 1.

Fig. 12—Completed lower bridges have been placed in mouth. Compare Fig. 12 with Fig. 17 to see amount of vertical dimension restored on each arch.

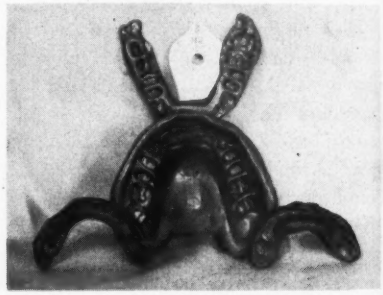


Fig. 13—Full red wax impression taken of maxillary teeth after all upper posterior teeth were prepared. A new wax bite as well as two additional check bites also shown, by means of which new upper working model was later made.

remounted to the upper master model. Additions were added to the castings.

11. Temporary cast crowns were made for the two first bicuspids. These crowns were later substituted for porcelain jacket crowns.

12. The crowns were again fitted in the mouth and this time the vertical height was sufficient (Figs. 6 and 7).

13. Another plaster impression was taken (Fig. 8) and a new lower working model made. This was mounted to the upper master model.

14. The two lower posterior fixed bridges replacing the lower first molars were constructed (Figs. 9, 10, 12).

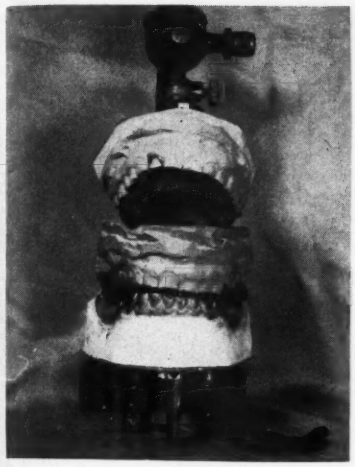
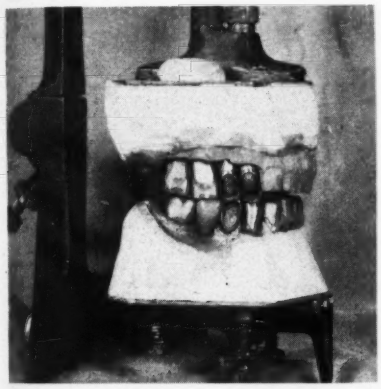
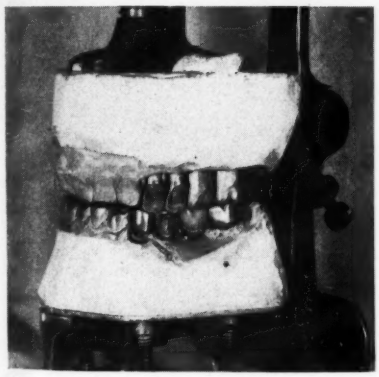


Fig. 14—New upper working model has been made and here it is shown just previous to removing upper master model from cast. Upon this new working model at new vertical dimension upper posterior abutment castings will be made.





Figs. 15 and 16—Here upper posterior castings are shown completed and ready to fit in mouth.

15. The lower prepared teeth were protected with aluminum crowns (Fig. 11).

16. *Upper Left Posteriors*—The upper left posterior teeth were prepared under local anesthesia for their respective castings. The left side was prepared first: the upper left second molar for a distal occlusal gold inlay, the upper left first molar for a mesial occlusal inlay, the upper left second bicuspid for a full cast crown with an acrylic facing, and the upper left first bicuspid, which was pulpless, was prepared for a full cast crown with an acrylic facing. Copper band impressions were taken of all these preparations and amalgam dies were packed.

Fig. 17—Upper posterior castings shown in mouth. Compare with Fig. 12 to see how vertical restoration was divided between maxillary and mandibular teeth.

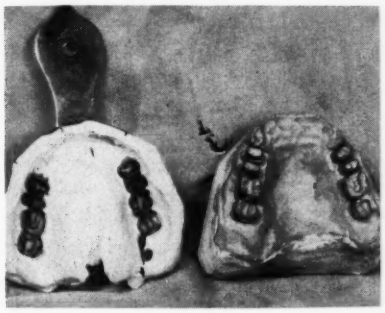


Fig. 18—A new upper plaster impression was now taken. Dies were removed from old impression, placed in their respective castings in new plaster impression, and a new upper working model was poured.

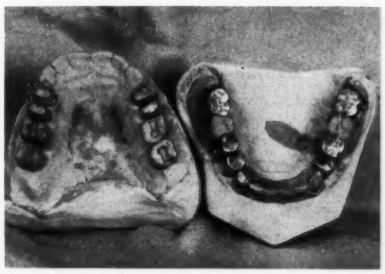
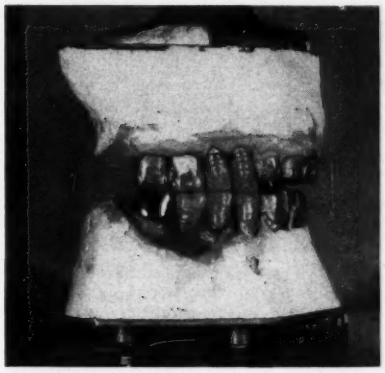
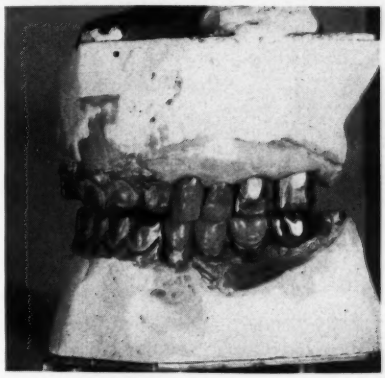


Fig. 19—Lower working model and new upper working model shown here just prior to finishing all posterior castings.

17. *Upper Right Posteriors*—The upper right posterior teeth were now prepared for their respective castings under local anesthesia. The upper right first and second molars were prepared for MOD gold inlays. The upper right second bicuspid was prepared for a full cast crown which was to receive an acrylic facing. The upper right first bicuspid was also prepared for a full cast crown which was to receive an acrylic facing. Copper band impressions were then taken of all these teeth and amalgam dies were packed.





Figs. 20 and 21—Right and left completed upper posterior castings. Two lower first bicuspids are porcelain jacket crowns. Remainder of processing was done in acrylic resin to match color of lower porcelain jacket crowns.

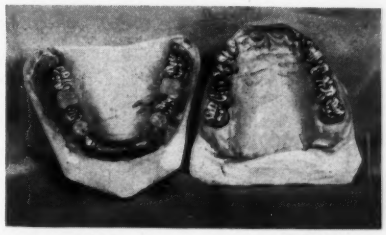


Fig. 22—Occlusal views of completed lower and upper posterior castings just prior to their insertion in mouth. Notice the occlusal carving.

18. *Insertion of Bridges*—The lower bridges which had previously been completed were now inserted; namely, the lower right bridge replacing the lower right first molar and the lower left bridge replacing the lower left molar. These bridges were soldered at both ends.

Fig. 23—Posterior castings have been cemented in mouth. Upper six porcelain jacket crowns remain at this point to be completed.

Fig. 24—Anterior teeth were separated with a carborundum disc and covered by means of celluloid crown forms filled with silicate cement.

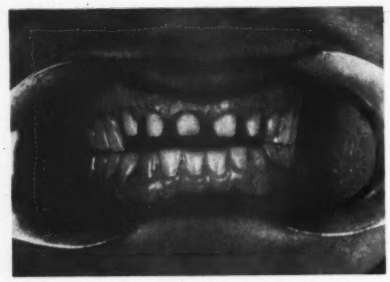


Fig. 25—Six upper anterior preparations. Notice that no tooth structure has been cut from vertical dimension of these teeth.

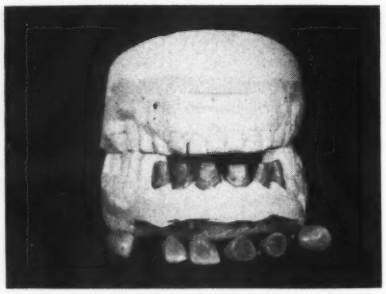


Fig. 26—Six anterior porcelain jacket crowns have been completed on a separate model as described in text.

19. *Upper Impressions and Bite*—A full upper impression was now taken in wax. A wax bite was taken (Fig. 13). In taking this bite, the vertical dimension was opened farther than it was held open with only the two lower bridges in position, the idea being to divide the vertical dimension between the upper and lower posterior teeth.

20. *Dies*—The eight upper posterior dies were now placed in their respective positions in the upper wax impression.

21. *Impression and Model*—The impression was poured and a working model made. The upper master casting was now removed from the articulator and the new working model was substituted for it by means of the last wax bite taken in the mouth (Fig. 14).

22. *Upper Castings*—The upper castings were now made (Figs. 15 and 16) and fitted in the mouth.

23. *Try-Ins*—The lower bridge was again placed in position. The lower right and left first bicuspid crowns were placed in position and the bite was again corrected for any discrepancies (Fig. 17). A new wax bite was now taken. The lower bridge and the lower castings were then removed from the mouth and transferred back to the model. A full upper plaster impression was taken, the upper castings were removed from the upper posteriors and placed in their respective positions in the wax impression (Fig. 18). The impression was poured and the new working model (Fig. 19) was substituted on the articulator for the old, by means of the last wax bite.

24. *Jacket Crowns*—Two porcelain jacket crowns were now made for the two lower first bicuspids.

25. *Completion of Lower Reconstruction*—The lower bridge and the lower posterior castings were now completed and the acrylic facings were processed. The shade of the upper acrylic was matched to the lower porcelain first bicuspid crowns (Figs. 20, 21, 22). The lower right temporary crowns were now removed from their respective teeth. The teeth were carefully washed with warm water and alcohol. They were varnished, and the lower right fixed bridge was cemented to place. The lower right first bicuspid porcelain jacket crown was then cemented. The lower left temporary crowns were now removed and the same procedure was resorted to; namely, the introduction of the left fixed bridge and the lower porcelain jacket crown on the first bicuspid.

26. *Upper Posteriors*—The upper right posterior temporary fillings and crowns were now removed from their respective teeth. They were cleaned as previously described. The gold inlays were cemented in the molars and the cast crowns with acrylic facings were cemented on the bicuspids. The same procedure was used with the upper left posterior teeth so that now the patient had all the posterior castings cemented in position (Fig. 23).

27. *Bite Adjustment*—The bite was again adjusted.

28. *Upper Anteriors*—a) The upper

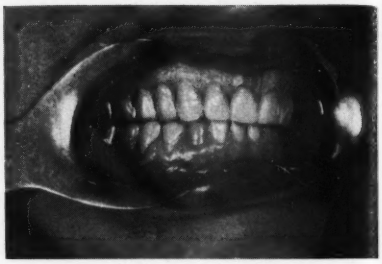


Fig. 27—Right side view of completed case.

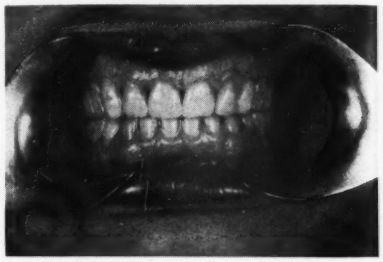


Fig. 28—Front view of completed case. Notice how the median line has been straightened. Notice also how left side of completed case compares with left side of Figs. 1, 2, and 3.

Fig. 29—Left side view of completed case.

Fig. 30—Front view of teeth of patient's 18 year old daughter. Size of these upper centrals are slightly larger than the size of the completed jacket crowns of patient. Vertical dimension is the same.

anterior teeth were now separated by means of a carborundum disc.

b) Temporary celluloid crowns were placed in position and filled with kryptex in order to give the effect of the porcelain jacket crowns (Fig. 24).

c) The next step was the preparation of the upper six anterior teeth for the reception of the porcelain jacket crowns. These teeth were prepared under local anesthesia, two at a time. Inasmuch as the teeth had been badly abraded, particularly in the vertical direction, it was necessary to remove as little as possible from the crowns.

d) After the preparations were finished (Fig. 25), a full lower impression was taken in trulastic.

e) An upper impression was taken in plaster.

f) A bite was taken.

g) The amalgam dies which had been made from coping impressions of each tooth were placed in their positions in the plaster impression.

h) The upper impression was poured in plaster.

Fig. 31—Models of completed case as compared with models at the start.

i) The upper model was then articulated to the lower model by means of a wax bite.

j) The six porcelain jacket crowns were now baked and completed, to harmonize with the remainder of the occlusion (Fig. 26).

k) The celluloid crowns, which had been used to protect the teeth while the porcelain jackets were being made, were now removed from the mouth.

l) The prepared teeth were wiped with warm water and alcohol. They were then varnished with cavity varnish, and the porcelain jacket crowns, which had previously been fitted, were now cemented in, two at a time, with a transparent cement.

The patient was now dismissed.

29. *Adjustment of Occlusion*—At the next visit the occlusion was again adjusted for any discrepancies.

30. *Completion*—Hydrocolloid impressions were then taken to complete the case and stone models were made and articulated. Roentgenograms and photographs were taken of the completed case (Figs. 27, 28, 29).

Comment

It is interesting to study the mouth of the patient's 18-year-old daughter. The dimensions of the anterior teeth of the daughter are slightly larger than the finished anterior crowns of the patient. The vertical dimension is almost identical (Fig. 30). It is interesting to notice that the median line of the finished case is normal and that the left side of the mandibular teeth no longer is in linguoversion. Compare Fig. 1 with Fig. 28.

730 *Fifth Avenue.*

X-Ray Metrology

JEROME J. PAVLIGER, D.D.S., Oakland, California

THE ACCOMPANYING photographs show an instrument which offers a simple method for paralleling the occlusal plane of the teeth with the floor. The plane of the upper jaw is obtained with the mouth closed as illustrated. The plane of the lower jaw is obtained with the mouth open and the ruler placed against the occlusal plane of the lower teeth. The ruler should extend through the second bicuspid, but not beyond, so as not to be affected by the natural curve of the bite plane of the teeth. The head rest of the chair is raised or lowered to meet the new position.

Uses

Although this instrument is primarily intended for roentgenography, to secure the proper verticle angles of the teeth in advance, the instrument has general office uses, such as securing the parallel positions of the lower jaw with the floor prior to making a mandibular injection, and as an aid in prosthesis by securing the symmetrical relation of the teeth to the face.

Fig. 1—Side view showing use of steel rule and level to indicate the occlusal plane.

Fig. 2—Front view showing position of instrument in use.

The Instrument

This instrument can be easily sterilized, being made only of steel and glass. The tool is comprised of a 6 inch steel ruler to which a level is bolted. Almost anyone can put the two together with little expenditure of time, money, and materials.

1904 *Franklin Street.*

The Square Cast Crown

J. BARDIN GOODMAN, D.D.S., Brooklyn

DIGEST

Instead of the usual conical or rounded post preparation for a cast crown abutment for fixed bridgework, a square, parallel-walled preparation is recommended for maximum retention. The technique for this preparation is outlined as well as the preferred method of crown impression-taking.

EVERY FIXED bridge, supported by a molar, in my opinion, should have a cast crown preparation. The cast crown gives the maximum amount of retention with the least amount of exposed margins.

Most cast crown preparations are made by relieving the occlusal surface and reducing the approximal sides and buccal and lingual surfaces until all bulges and undercuts are eliminated. When completed a conical or rounded post preparation is had. Constant torque, buccal, lingual, and mesio-distal, will have a tendency to rotate the round crown on its support. That is why for many years I have made the cast crown on a square preparation.

Technique

1. Remove all caries and place cement bases.

2. Reduce the occlusal surface at least 1 mm. to permit a reasonable amount of gold in the restoration, so that the patient will not bite through the occlusion.

3. With a safe-side disc, reduce the mesial and distal surfaces, until they are parallel to each other and also parallel to the adjacent tooth that will support the other end of the bridge.

4. Reduce the buccal and lingual side with wheel and barrel shaped stones until the bulges are removed and these two surfaces are parallel to each other.

When the preparation is completed,

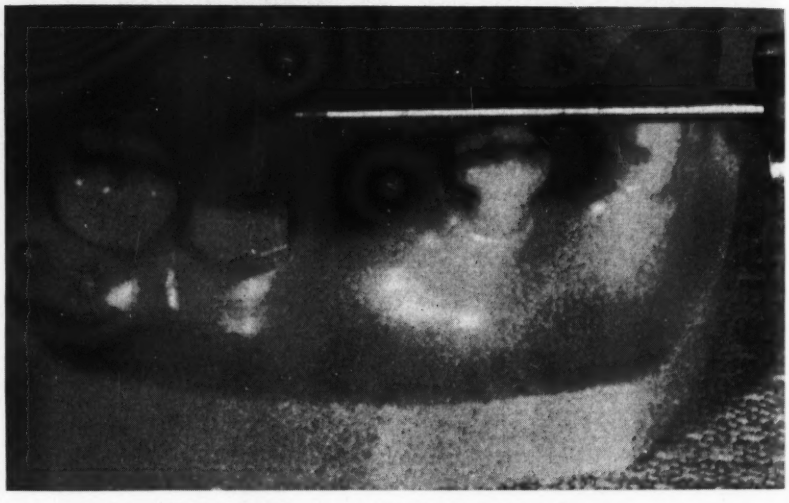


Fig. 1—Wheel stone grinding occlusal surface.

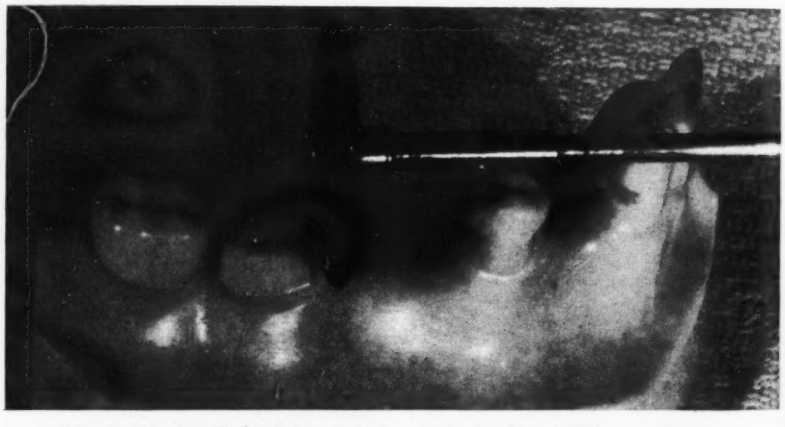


Fig. 2—Safe-side disc grinding mesial and distal sides parallel to each other.

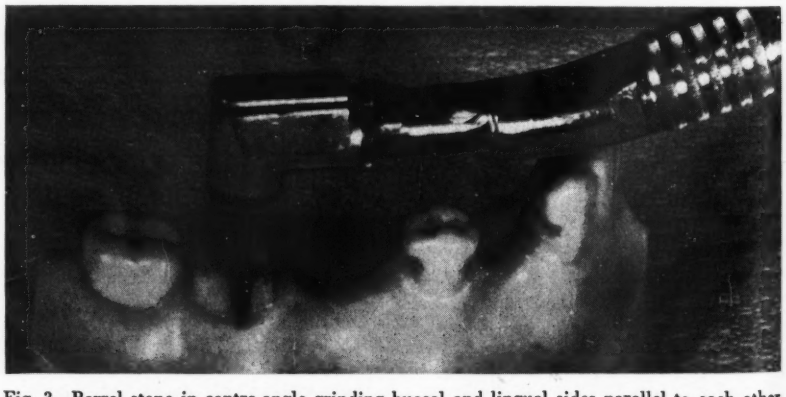


Fig. 3—Barrel stone in contra-angle grinding buccal and lingual sides parallel to each other and squaring mesial and distal walls.

it is square with all the angles sharp.

The cast crown when completed will be harmonious with the anatomy of the normal crown, although it rests on a square base. The crown fits firmly and resists all stresses, because it rests on square parallel walls. It is almost impossible to remove the crown, and when cemented a preparation with maximum retention is had.

Impression of Crown

There are many ways to take an impression of a crown. The commonest method is the plaster impression. A compound band impression; a hydrocolloid impression on tray or band; waxing directly on the tooth, or preparing a gold band and waxing the occlusion on to it are other methods.

I have tried all these methods and have always found something lacking. I use the following method because it is simple and accurate:

1. Select a copper band that fits the preparation as snugly as possible.
2. Trim the gingival surface to conform to the gingivae.
3. Cut the band from the occlusal surface until the occlusal side is cleared. Mark the mesial side of the band with an X.
4. When the band is properly contoured, it should be square in appearance.
5. Soften some regular blue carving inlay wax; fill the band, and put to place over the preparation.
6. Remove at once to see if the wax has reached down to the gingivae and around the band; if not, add wax, reheat, and seat on the preparation.
7. When the band has been completely filled and it fits well, add wax on the outside of the band on the occlusal side.
8. Reseat and have the patient grind the wax into occlusion. Register the occlusion.
9. Chill the wax band and remove.
10. Make a chimney of sheet wax around the band.
11. Make a creamy mix of diolite stone and pour into the band.
12. When the stone has set, remove the thin sheet wax, and with a safe-side disc, split the band on the buccal side. Wax now covers the preparation.
13. Contour the crown and remove excess wax. If the wax has not been

Fig. 4—Completed preparation showing square parallel walls and surfaces.

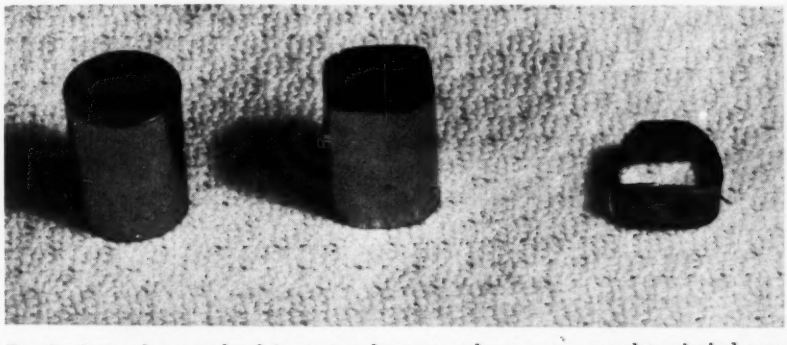


Fig. 5—A round copper band is contoured square and cut to accommodate gingival area.

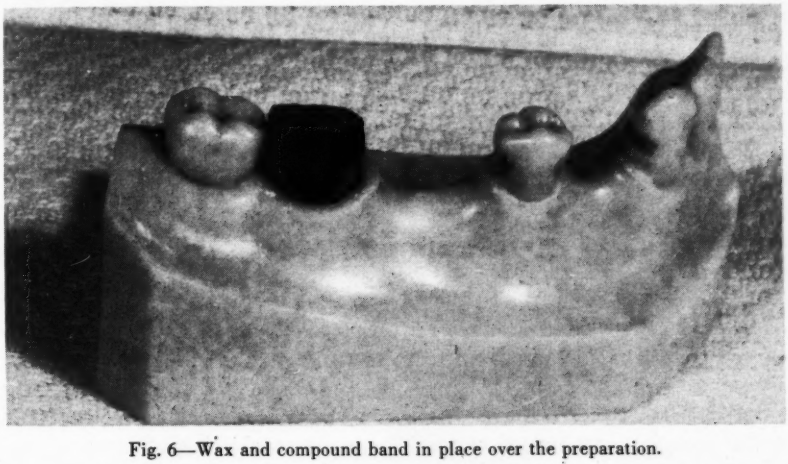
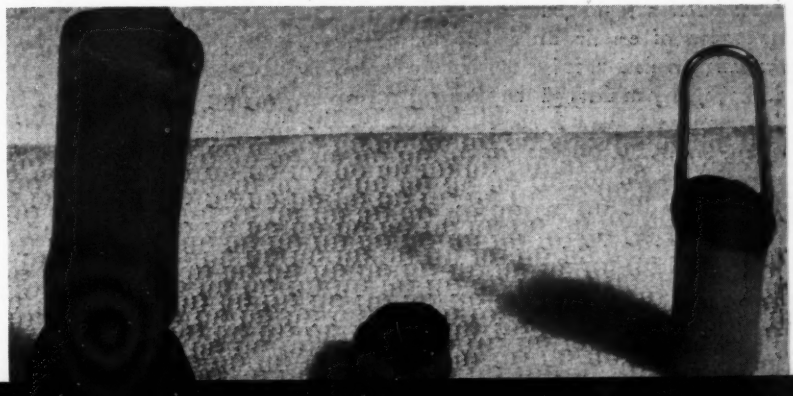


Fig. 6—Wax and compound band in place over the preparation.

Fig. 7—Completed wax band impression and wax chimney built around band. Wax pattern and U-shaped sprue attached to finished wax pattern.



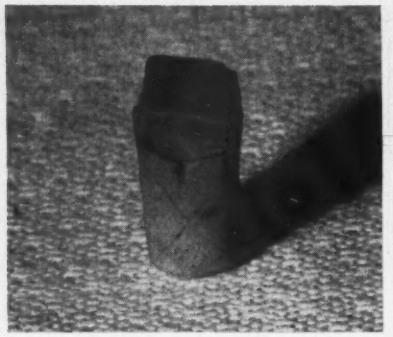


Fig. 8—Diolite stone model showing outline of gingivae and all square parallel walls and surfaces.

Fig. 9—Wax pattern and sprue on preparation.

overheated and a sharp scalpel or knife is used, the wax pattern may be easily removed.

14. When properly carved, place a U-shaped paper clip on the buccal and lingual side of the pattern. This will enable the operator to remove the pattern without distortion.

15. Invest the wax pattern in straight cristobalite, and cast when it has turned a toasted brown color. Use hard gold to prevent excessive thickness.

This square crown is to my mind the most ideal abutment for fixed bridgework. It is simpler to make than the complex or compound inlay.

1509 *Foster Avenue.*

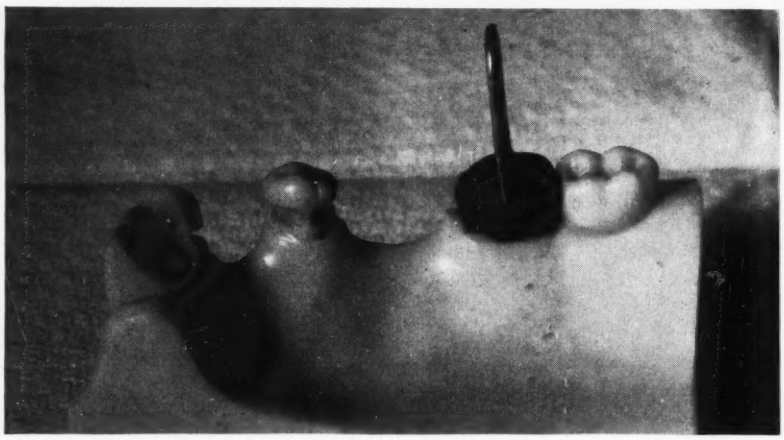


Fig. 10—Finished cast crown on square preparation which looks normal beside adjacent tooth.

Sublingual Administration of Morphine

[From the Journal of the American Medical Association, Queries and Minor Notes, 120:1349 (December 19) 1942.]

MORPHINE sulfate taken by mouth is completely and rapidly absorbed from the stomach and upper bowel. After absorption part of the morphine is excreted into the gastro-intestinal tract. Morphine is rapidly destroyed in the body.

The sublingual administration of drugs offers a rapid route for the introduction of certain drugs into the systemic circulation. It is a much more direct route than through the stomach. The sublingual space is covered with a thin membrane of considerable extent. The network of large veins gives a free return of blood. In addition, the sublingual membrane is smooth, not furred like the tongue, nor is it covered with thick mucus or débris, as the stomach may be during a gastric upset.

Only those drugs which are effective in small doses, soluble and not irritating, are suitable for sublingual administration. Morphine sulfate is ideal for this method.

When absorbed sublingually the drug escapes the action of the gastric ferments and, more important, it escapes the destructive action of the liver cells. In the case of morphine sulfate the liver through sulfonation causes a considerable loss in therapeutic activity.

Method of Administration

1. If the mouth is too dry, it may be rinsed with water.

2. The hypodermic tablet or powdered drug is placed under the tongue just back of the teeth and the tongue is allowed to drop back into place.

3. It is held in this position for a few minutes, although most of the drug will be absorbed in several seconds.

4. The patient is advised not to swallow until the taste of the drug has disappeared. The effect will be felt quickly.

Advantages

The sublingual method of administering drugs has the advantages of being quick, easy, safe, clean and reliable. It requires no special preparation, such as sterilization, and can be used by nonmedical persons.

The Editor's Page

READ THESE words carefully and try to identify their origin and the publication in which they appeared:

> Clearly the processes of licensure must be geared to meet this emergency [the war]. No doubt much can be done administratively to relieve the situation. The granting of temporary permits to practice for the period of the emergency and perhaps for a brief time thereafter has been suggested as one means of meeting the problem. . . . It has been reported that the Attorney General of the United States has ventured the opinion that licensure laws might be invalidated for the period of the emergency. The suggestion has also been made that state legislatures might immediately pass enabling legislation for such invalidation if necessary to permit physicians to practice temporarily in such states.

The writer of these sentences: (1) appears to favor the suspension of state licensure laws to permit physicians [or dentists] to practice by non-examination reciprocity in states where the need is great; (2) backs his argument by an opinion of the United States Attorney General; (3) suggests that inasmuch as the legislatures in forty-four states will be meeting this year, state laws ought immediately be passed to permit this form of emergency reciprocity licensure.

To many readers these suggestions for breaking down the state barriers of licensing laws will sound like the proposals of New Dealers, radicals, or enemies of state's rights. The fact is that the author of the comments on a change in medical licensure laws is an editorial writer on the staff of the *Journal of the American Medical Association*, a publication never identified with leftist movements or even with liberal economic or social philosophies. Few publications could be more conservative than that *Journal*.

What is the behind-the-scenes story and the significance of the suggestion to let down the state law barriers to practice? In part the answer may be found by turning to page 927 of the same issue of the *Journal of the American Medical Association* (November 21, 1942) where forty pages of reading follow on the hearings before a United States Senate Committee. These hearings revealed an unhappy situation regarding the distribution of the physicians of the United States during the war emergency. Some communities, notably in the South and in non-metropolitan areas, have been depleted of physicians because of calls to military service. Although in not so great a degree, the same situation applies to dentists.

To correct this unequal distribution of medical and dental personnel, men must be sent, either on a voluntary or on a compulsory basis, to these medically blighted areas. If these transfers or migrations are made within the state in which the physician or dentist holds a license, no legal problem is involved. If, however, an interstate transfer is planned, the physician or dentist must fulfill the licensure requirements of the state in which he expects to take up practice. And there's the rub. Few are going to dislocate themselves from practice, travel to another state at their own expense, and pay a fee to undergo the rigors of a state board examination. That is asking too much. But the need is pressing and acute. What is to be done?

First, the United States Public Health Service may commission dentists and physicians and send them to these medically blighted areas at the request of local health authorities. This has already been done in several instances, according to the testimony before the Senate Committee. It is believed that more of this will be done in the future by the United States Public Health Service.

Second, the state legislatures may invalidate the medical and dental practice acts to permit physicians and dentists to hold temporary practice permits. This method is not likely to be popular. It isn't likely that any substantial professional person would care to dislocate himself and seek civilian practice in another community if his tenure of practice were to be so insecure. It is quite a different thing for a man to close his office to go into military service. In this case, he is doing a more spectacular thing with public approval and acclaim. There is nothing spectacular, however, in moving from one civilian community to another to practice. Quite the contrary. Unless the movement is understood by the people of the community, the motive might be misunderstood altogether as that of self-seeking for economic gain, or the person might be thought to have been unsuccessful in his former location and thus be considered an undesirable floater.

If dentists or physicians are to be sent into "other" communities under the necessities of the war economy, they are entitled to some form of recognition from the government, so that their dislocation will be understood. That recognition should probably come by giving these men an appointment in the United States Public Health Service. The matter of temporary permits will not be pleasing to anyone. No one would care to go into a community to practice if he knew in advance that he would not be permitted to retain his practice in that community after the war. No one could give his best to his patients even if he wanted to if his future were to be so nebulous and his status so insecure.

Acrylic-Metal Angular Restoration for Anterior Teeth

PERLEY J. LESSARD, D.D.S., Portland, Maine

DIGEST

Except for its use in jacket crowns, acrylic resin is best used as a veneer, fortified with backings of metal, at the present stage of its application to restorative dentistry. A technique is therefore presented for an acrylic-metal angular restoration for anterior teeth. A fractured central tooth, with the incisal edge missing, serves as a typical case for such reconstruction. The advantages are enumerated.

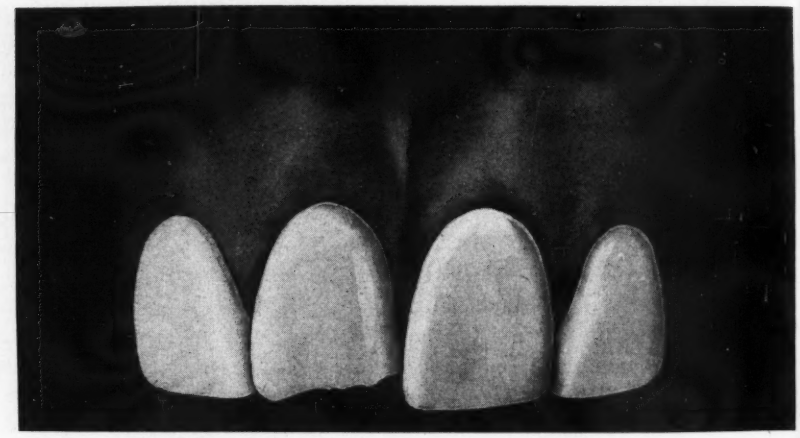


Fig. 1—Incisal edge of right central, fractured.

Fig. 2—Incisal view of incisal edge preparation.

IT IS MY OPINION that at this stage of development, acrylic resin, in its application to restorative dentistry (with the possible exception of its use for jacket crowns), will serve best if fortified with backings of metal. In other words, its greatest uses are in its employment as a veneer.

Let us consider a typical case in which the incisal edge of a central tooth is missing (Fig. 1). The incisal edge preparation is demonstrated in Fig. 2, showing the incisal view.

Technique

1. With a suitable thin carborundum stone the ragged line of fracture is smoothed to a straight line. All margins are without bevels.

2. The dentine is countersunk and two holes are drilled with a round bur, in the long axis of the tooth, to a depth that will not impair the vitality of the pulp, and with sufficient strength for anchorage.

3. The holes are placed at each end and should be large enough for a 20 gauge metal pin to be safely inserted. No further preparation is needed for this dowel type acrylic restoration.

4. After two platinum pins are placed in the drilled holes and allowed to project at least one sixteenth of an inch, the impression is taken with compound in a copper band which was previously fitted to the tooth. The pins should be loose enough in these holes to permit ready withdrawal with the impression.

5. The compound impression is left to harden and a small plaster impression is taken over it. The plaster impression should include several adjoining teeth.

6. A wax bite is now taken.

Galvanoplasty of all impressions on which acrylic resin is processed is advisable, but in the technique described here, it is not imperative.

7. The pins in the compound impression are now painted with a thin layer of varnish to protect them from the amalgam, which is next packed in and built up to a cone for retention in the stone. When set, the amalgam and the plaster impression are varnished and the cast is made of stone. The wax bite is placed on the model and the articulation poured. A hole is cut in the base of the stone model and the amalgam die is forced out (Fig. 3).

8. The pins are replaced in their respective positions in the die and hard inlay wax is melted into the countersunk area to engage the two pins. More wax is added over this area until a suitable core is formed; the length of the core depends on the amount of tooth structure to be replaced—usually a few millimeters beyond the preparation is sufficient.

9. The wax pattern is sprued (Fig. 4) and invested in the inlay ring. The casting is made from rigid gold, thus insuring a perfect union with the platinum pins.

10. After the casting has been

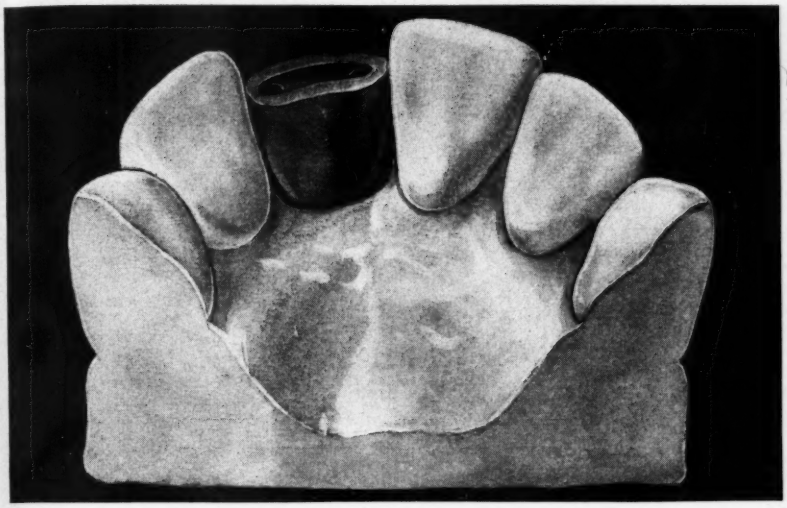


Fig. 3—Die on model.

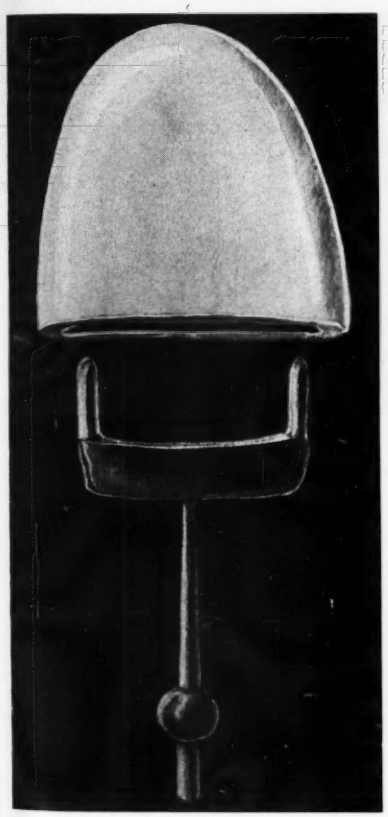


Fig. 4—Wax pattern sprued; platinum pins engaged in wax; to be cast in hard gold.

Fig. 5—Etched gold casting tried on tooth.

Fig. 6—Waxed restoration. Colorless wax was used. Waxed case is shown on die; later, to be changed to acrylic resin.

cleaned and finished, its core is etched with a carborundum disc. The casting is now tried on the die for fit. If there is any doubt as to the fit, the casting should be tried in the tooth in the mouth (Fig. 5).

11. With the use of 1/1000 inch tin foil, a matrix is burnished over the preparation, with an apron beyond the edges. The casting is pushed into place through the foil in the amalgam model.

12. Neutral colored cement, applied in a thin coat, is painted on the prominent exposed parts of the core. The object of this layer is to keep the metal from showing through the acrylic veneer. The same result may be obtained by heating the core slightly and then applying a thin acrylic coat of suitable color into which a little zinc oxide powder has been incorporated to make it opaque.

13. Colorless wax is applied over the core to the desired length and breadth to duplicate the missing incisal angle of the tooth (Fig. 6).

14. The waxed pattern is now ready to be changed to acrylic resin and this can be accomplished by various techniques. For the case described here, I prefer to use the casting technique, which assures an acrylic restoration of denser and harder finish.

15. The waxed case is removed, sprued, and mounted on a cylinder former (Fig. 7). The remainder of the exposed wax is tin-foiled (1/1000 gauge) and burnished carefully on all surfaces, including the sprue.

16. The tapered inlay ring is placed over the mounted case and invested. The investment consists of half plaster and half stone, to which a few grains of potassium sulphate have been added. Just enough stirring is done to produce a homogeneous mass. Investment thus treated will have less expansion, which is quite important when processing minute plastic restorations. After the investment has set, the wax is eliminated by boiling and the application of carbon tetrachloride.

17. Powder (polymer) of the proper

Fig. 7—Waxed case sprued and mounted on cylinder former.

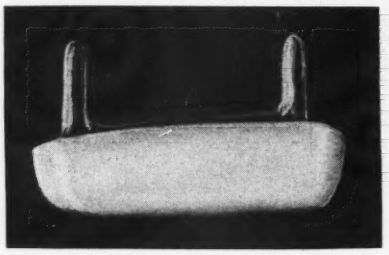


Fig. 8—Finished restoration. Acrylic processed on gold core; pins used for retention.

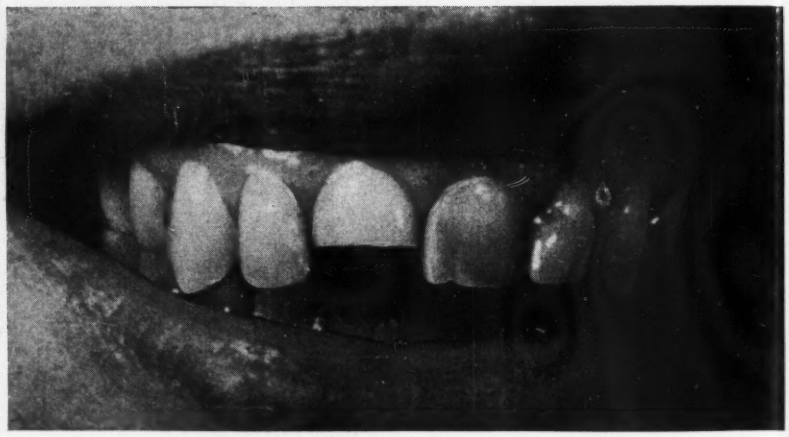


Fig. 9—Tooth prepared and ready for insertion of restoration.

Fig. 10—Finished case cemented on tooth.

color is mixed, preferably a powder with the smallest mesh particle sizes that can be obtained; the fineness of the mesh particles improves hardness and strength. Liquid (monomer) is applied with a dropper. When the mix is of correct consistency, after having been sealed in a small jar to encourage plasticity, it is placed in a cylinder cavity of the investment.

18. By slowly pushing the piston on one end of the casting machine, having compressed springs on the other end, the casting is accomplished by slowly mounting the temperature of the water to the boiling point, holding it there for fifteen minutes, shutting off the heat completely, and allowing the case to cool in the water. This will require more time than quick-cooling but if cooled slowly there will be less likelihood of dimensional changes in the finished restoration.

19. After the case has been removed from the investment and the tin foil peeled off, the restoration is almost finished; however, if rough areas are present, they are easily removed with tripoli on a rag wheel at slow speed, and polished with tin oxide (Fig. 8).

20. The tooth is sterilized and dried and the restoration is cemented into place with a good zinc phosphate cement. It is permissible at this time to use a warm burnisher to achieve a more pleasing union at the butt joint, if necessary; but if diligent care has been exercised throughout the fabricating of this restoration, it will be seated in the preparation with precision (Figs. 9 and 10).

Advantages

1. The restoration advised here is esthetically pleasing; it blends harmoniously with the upper two thirds of the tooth.

2. The unsightly cement line, so prevalent when porcelain inlays are used, is made inconspicuous with this acrylic resin restoration.

3. It is the strongest restoration that can safely be placed in anterior teeth; it will not fracture as porcelain will.

4. A cushion-like biting surface is afforded; thus there is decreased impact and no abrasion, which protects the alveolar process and opposing teeth; in this respect it is far superior to metals and porcelain.

5. The restoration will not loosen, because it is the metal that is the retainer and not the plastic; therefore, too much water absorption or too much resiliency of the acrylic material need not concern the operator.

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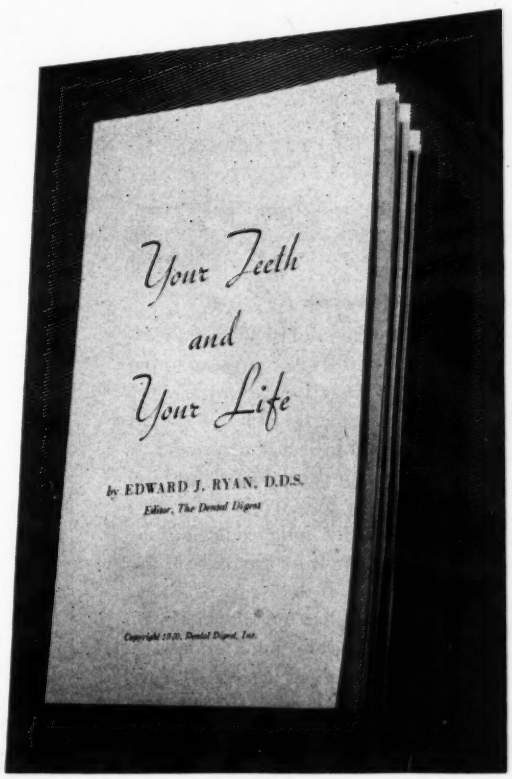

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Now We Have an Admiral . . .

The President has signed the bill creating a Rear Admiral to be the head of the United States Navy Dental Corps. Now that we have come this far we should make an attempt to secure a measure of administrative independence for the Dental Corps of the Army and Navy. The administrative independence does not imply a schism from the Office of the Surgeon General of the Army or Navy. It is regrettable that dental officers of both Services are too much under the domination of medical officers with regard to the requisitioning of supplies and other such matters of administrative authority. It is a sorry situation when a dental officer cannot order a dozen burs or a box of cement without having the order approved by a medical officer.

Dentistry will have to fight its own battles to secure administrative authority and its just recognition. In the same vein the problem of promotion of officers of the Army and Navy comes to the front. The Medical Corps of the Army has at least twenty-five medical officers in the grade of Brigadier-General, five of whom have been recently created. The Dental Corps with 7000 or 8000 officers has one Brigadier-General. The Dental Corps should have the same ratio in the number of Brigadier-Generals to the size of the Corps as exists in the Medical Corps. For instance, if the ratio of medical officers is 6.5 to 1000 men and the ratio of dental officers is 2 to 1000 men there should be more than three times as many Brigadier-Generals in the Medical Corps as in the Dental Corps. On the basis of 25 Brigadier-Generals in the Medical Corps at the present time, the Dental Corps should be entitled to at least 7 Brigadier-Generals. These will be had by the Dental Corps only if American dentistry asks for them and demands them.

The Beveridge Report . . .

When a nation pauses in a war of survival to read a 200,000 word report on socio-economics, it must mean that the report strikes fire in the hearts and minds of thousands of its people. The report by the Beveridge Commission recently read before the House of Commons in Great Britain presents an extensive plan of governmental security for post-war Great Britain. The following are some of the provisions of the Beveridge Report:

1) complete provisions against the hazards of unemployment;
2) complete provision for a national health service for every man, woman, and child;
3) a simplification of the system of workmen's compensation;
4) protection of the integrity of the family by endowments after the first child;
5) protection for the aged, the lame, the halt, and the blind;
6) provision for the vital elements of life, marriage, childbirth, and death;
7) a simplified administrative machine under a Ministry of Social Security;
8) the abolishment of the degrading means test for relief.

Will we have a similar social security plan for the United States? Many men who are now engaged in fighting our battles and producing the instruments for war have the haunting fear of unemployment after the war. The American government must begin to plan immediately to prevent suffering from

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want, unemployment, and a depression after this war. Nothing will do more to strengthen the morale and give courage to the fighting heart than for our men to know that they are not to return home to face hunger, destitution, squalor, and ill health. The ten million men and women who will have learned about good health care at first hand from their Services in the Army and Navy and Marine Corps will have had standards established in their own minds which they will not be satisfied to part with when they return. They will have experienced, many of them, better nutrition than they ever knew before; they will have received far better medical, dental and nursing care than they ever received before. They have already been indoctrinated with the principles of social security with respect to old age and unemployment compensation. When they return from the wars they are going to expect that the third side of the social security triad will be completed; namely, some form of nationalized health service.

No less a spokesman than the present president of the American Dental Association, J. Ben Robinson, speaking before the Greater New York Dental Meeting, urged American dentistry to "keep an open mind on dentistry's future. Some socialization of health services is necessary." This is quite a different note from what had been sounded by other presidents of the American Dental Association—many of them merely echoed the reactionaryism of the American Medical Association. Ten years ago when the final report of the Committee on the Costs of Medical Care was released the editor of the *Journal of the American Medical Association* characterized a national program for health care as "socialism and communism—inciting to revolution." Since that time the United States has seen the passage of the Social Security Laws. It has seen each worker in the United States given a number. It has seen every worker in the United States, along with the employers, contribute to the social security funds. It has seen cash awards made for unemployment compensation and for old age relief. Many have been spared the poor house and the bread line because of the social security legislation.

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The successful result—our new plastic Benzedrine Inhaler—is now on the market. More than a wartime substitute, it is a definite improvement over the aluminum tube. Just as effective therapeutically, it is far more attractive in appearance and has only one cap to remove.

Each tube is packed with amphetamine, 250 mg.; oil of lavender, 75 mg.; menthol, 25 mg. Benzedrine is S. K. F.'s trademark, Reg. U. S. Pat. Off.

SMITH, KLINE & FRENCH LABORATORIES, PHILADELPHIA, PA.

More than a century of service to the medical profession

In your ORAL HYGIENE this month

Ever have an appointment with a lion?

In a world at war, with the profession so directly affected, naturally ORAL HYGIENE'S pages must reflect the facts of life, must talk a great deal about dentistry's wartime rôle, and the problems the War has created.

That is why ORAL HYGIENE deliberately changes its editorial pace every so often, and features something remote from today's sombre affairs. Thus, this month the January issue opens up with Doctor Joe E. Landess's "Circus-Town Dentistry." Ever have an appointment with a lion?

The cover this month honors a dental officer, Lieutenant D. D. Jackson, U.S.N., who served the wounded aboard the carrier *Yorktown*.

This month's pictorial lesson tells "How to Kill a Dental Practice" by being guilty of a "down-at-the-heels-and-bearded look."

Lola Clevenger's "My Husband is an Army Dentist" describes twenty months of Army life from a wife's point of view.

Did you know that "Your Patients Can Deduct Dental Expenses from 1942 Income Tax"? Samuel Hacker, certified public accountant, analyzes this new ruling, and ORAL HYGIENE prints a little poster about it for your office wall.

You likely agree that "War Workers Need Dental Care." Doctor William Magnelia tells what his community is doing about it.

"Take Care of What You Have" deals with some wartime conservation measures that will help you keep equipment functioning.

And ORAL HYGIENE'S popular departments round out this month's lively issue.

In your JANUARY

Oral Hygiene

ironically, from Germany, and later from Great Britain. The Beveridge report is another chain in the link that was first begun in Britain by Lloyd George in 1911. No Tory, no Conservative, no arch reactionary is strong enough in this world today to stand up and oppose the principles of social security. American dentistry will be smart to place itself in the front line of the planning.

Any plan for the United States, to be sure, will have to be different from the British plan because of the geography of our nation. Clinics or group hospital practice might be efficient in large metropolitan areas, but they would be totally inadequate and unnecessary in rural communities. In the United States the system of private practice should be retained in any system of dental care on a national basis.

Dental Students Prepare for War . . .

Under a new plan of the federal government, dental and medical students are to be kept in college as soldiers in the Army. They are to be housed, provisioned and paid by the government. They will attend classes under some sort of a contract between the federal government and the dental or medical school. Presumably no student will be required to pay tuition. Undoubtedly if the government invests so much money in dental education, it is going to expect a return from it not only during the war years but afterward.

Speaking as one who served in the last war as a member of the Medical Reserve Corps or the Students Army Training Corps, I would like to put a prediction on the pad: Any system in which young men are required to drill long hours and are likewise expected to keep up in their intensive studies in the dental school is doomed to failure before it starts. The S. A. T. C. of the last war was a noble experiment. So, too, was prohibition. Neither was successful because fundamental human principles were violated. Prohibition failed because you can't legislate the alcohol craving out of a man's physiology. The S. A. T. C. failed because you can't make a youngster a good soldier and a good dentist at the same time. In 1918 the medical units of the S. A. T. C. were under the command of line offi-

cers. This in itself was a mistake. Infantry men are interested in developing foot soldiers and perfecting drill regulations. These infantry officers would not be concerned with medicine or dentistry or the objectives of either. If, after the requirements of drilling and indoctrination of the military discipline there was enough time left over for classes in the professional schools, they probably would not object.

We hope, therefore, that these military programs in dental schools will be under the supervision of dental officers who have some feeling for the professional phases of training and an appreciation of the military. The whole experiment will be doomed to failure if line officers, or even medical administrative corps officers who are not steeped in the professional tradition, are put in command.

"This May Hurt" . . .

One of the important fire insurance companies recently gave this title, "This May Hurt a Little" to a piece of their advertising which appeared in *Time*. It was that hoary horror picture showing a dentist gleefully drilling a tooth in the mouth of a goggle-eyed fellow. We know that there is nothing funny about the dental experience. It is not funny to the dentist and it is not funny to the patient. It is one of those things that has to be done, just as knocking the bugs off the potato vines or cutting the viscera out of a turkey before it can be eaten. When an insurance group, which theoretically is based on the principles of prevention, makes fun of a profession whose major story is prevention, we think humor is being pressed. Apparently many other dentists reacted to this ad unfavorably too, because the Aetna Fire Group, whose ad this was, received many letters in protest. One was written by this commentator. It is only fair to report that the reply from the president of the Aetna Fire Group showed that there was no malice behind the advertisement. It is true, I believe, that most such ads and radio scripts ridiculing dentists are not malicious but are conceived in false humor and are born under the same sign. Mr. Bing Crosby's recent interview with Doctor Edgar Buchanan, the prominent actor and former dentist, is another example. I have never felt that the American Dental Association or any dental organization was sufficiently militant in battling the detractors of dentistry nor vigorous enough in its educational efforts to counteract some of these depreciating influences. There is also an American Association of Dental Editors—its silence is deep.

Specifically designed for the newer acrylic cases, Williams *Spur-Saddle* Lingual Bar is quickly adapted, with reinforcing "spurs" which lie neatly over the ridge and between the teeth without bulkiness or interference. Entire bar anatomically contoured—and full 16 karat. Corrugated, slotted ends assure perfect retention in the denture material. Ask your dealer for full details—or write. Williams Gold Refining Co., Inc., Buffalo, N. Y.; Fort Erie, N., Ont.; Havana, Cuba.

WILLIAMS

SPUR-SADDLE LINGUAL BAR

What Are Your Prospects for Service? . . .

Commissions in the Dental Corps are once again open for men under 38. Exactly what the procurement objectives for 1943 may be are unannounced. Whether the military forces may need 2000 dentists in 1943 or 10,000 is a matter of conjecture. My own guess would be that about 8000 will be required. My guess, also, is that 8000 dentists cannot be procured from the men under 38, so that I believe the Corps will be opened to men under 45. Even then, there may be some difficulty in filling the procure-

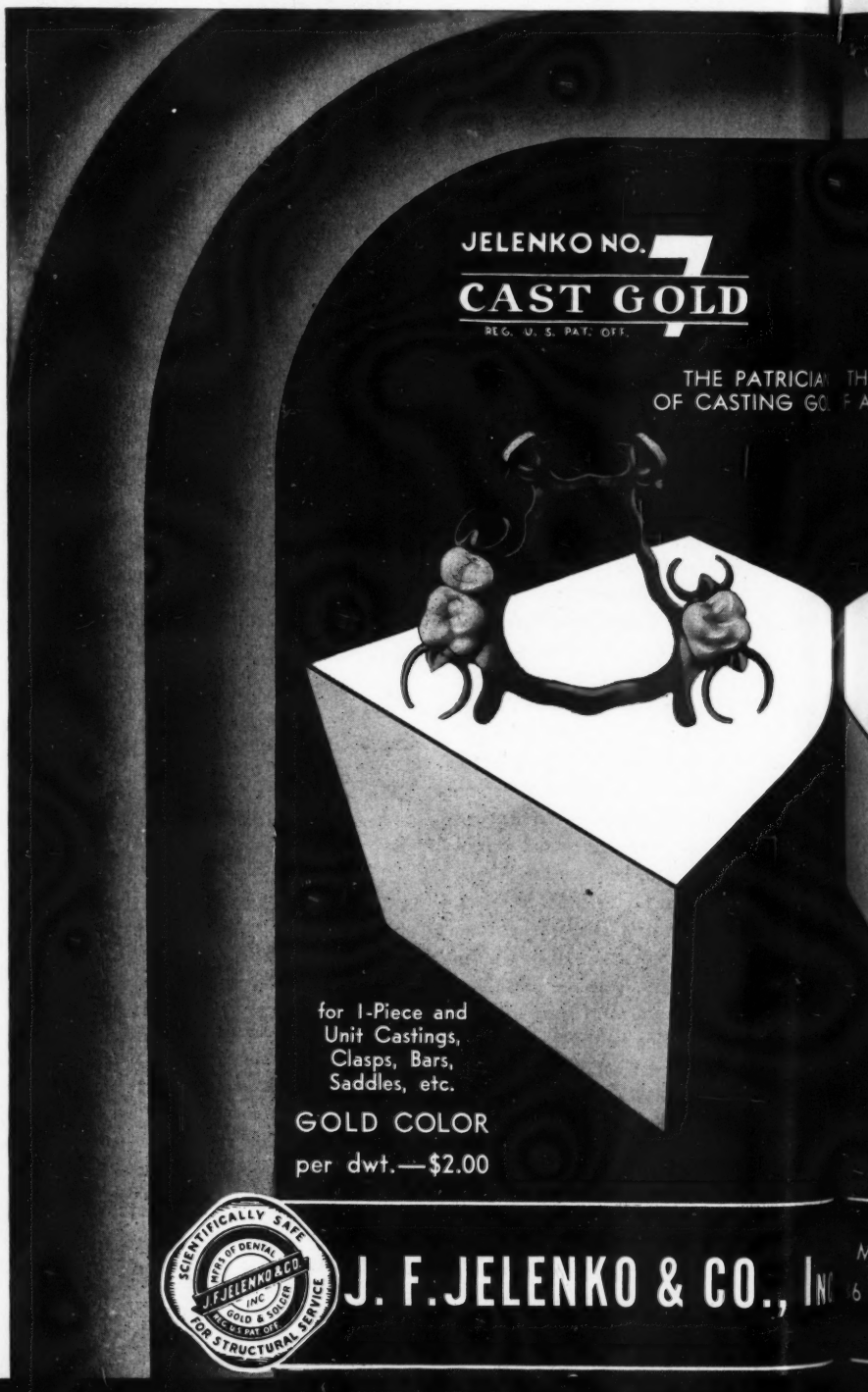
ment objectives. What is the next course? According to a directive of the President, men between 38 and 45 are no longer to be drafted into the Army. They are classified as 4H. But the Selective Service System is now no longer a separate entity but a part of the War Manpower Commission. What if the War Manpower Commission decides that not enough dentists are coming into the Services by voluntary enlistment? The answer is simple: The War Manpower Commission can tell the Selective Service subdivision to put all dentists under 45 in class 1A. After they are in class 1A, if they are to be given commissions, claims for dependency no longer are allowable. That would be one sure way to meet the procurement objectives for the Army and Navy. It may not be necessary, but it is a warning to dentists between 38 and 45 who are now sitting back on their heels because they think they are too old to be drafted. Some of them may experience a surprise. There are thought to be about 15,000 dentists in this age group.

Men older than 27 are not much good in combat, it is agreed. There should be plenty of young dentists to take care of the needs for combat troops. But any man who can stand at a dental chair and work all day in civilian life can do the same thing if he puts on a uniform. Thus age is not a serious deterrent when it comes to selecting dental officers who are to be stationed in installations in this country. Dentists who go with expeditionary forces will, of course, have to be young, active, and well grounded in the military as well as the professional procedures. Dentists serving in hospitals, in camps and stations here at home, need not have any great training in military procedures. If they know something about the rudiments of military courtesy and etiquette, how to wear uniforms creditably, a little of the traditions of the Services and the routine, that should be sufficient. There is no need for a dental officer serving at home to be on a par with a graduate of West Point or Annapolis.

The Rumor Factory Is Always Busy . . .

The other day a telephone call from a fellow who is usually calm and contained brought me the "news" that the soldiers in a certain large camp were storming the dental dealers in the city where the camp was located and making a run on the supply of artificial teeth. The rumor had it that the Army did not have enough artificial teeth to supply the men in Service and the soldiers were racing with beads of perspiration on their brows to buy up supplies of teeth. A telephone call to the senior dental officer at the camp brought the report that although there was some scarcity in some shades and molds of teeth which sometimes delayed turning out some dentistry, there was no observable panic among the soldiers nor was anyone unduly concerned.

The point that this rumor attempted to make is entirely contrary to the human experience. We dentists know that the edentulous state, although it is embarrassing to some people, is never so terrifying that they begin worrying



about the dental materials and supplies. And because we know something about the mass behavior of soldiers, we are pretty sure that the terror of edentia would not strike up a panic.

Rumor 2 concerns the alleged placement of arsenic in acrylic materials offered to airplane manufacturers, so that they cannot divert this material to the dental market. This silly rumor was spread by the Washington correspondents of the *Detroit Free Press*. The story was that because of the disparity of prices between plastic materials used in industry and dentistry there was some bootleg diversion from the industry to the dental field and that the manufacturers, to protect themselves, had to put arsenic in at the source of manufacture. In checking with manufacturers we have had complete and unequivocal denials. Such a rumor hurts any person who wears an acrylic denture or whose relatives or friends wear acrylic dentures or anyone who is about to wear one. No one would like to think that he was being slowly poisoned to death by the instrument of mastication from which was promised so much to improve health, appearance, and comfort.

No one who has spent his life in journalism would be an advocate of censorship and the curtailment of free expression. But in a time of war I think we will all agree that the press can have too much freedom. We would all prefer that the censorship be self-imposed rather than clamped on by some blue-nosed bureaucrat. In this connection Mr. Jack Carley, associate editor of the *Memphis Commercial Appeal*, writing in the *FBI Law Enforcement Bulletin*, says: "The press is not free in the literal sense. In setting up the constitutional guarantee of press freedom the Founding Fathers did not intend that freedom should be interpreted as meaning license. There have been some tragic and, may I say, criminal, misinterpretations of what constitutes press freedom, and our internal enemies have been, by no means, the only offenders.

"Perhaps I can explain it this way. Freedom of the press does not mean that we possess a right to attack with impunity. When the Founding Fathers set up that constitutional guarantee they certainly did not intend that any newspaper or any editor should use that very guarantee to destroy the Republic they were establishing."

The rumor factory is one war plant that ought to go on a curtailed production schedule.—E. J. R.

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Durocast
REG. U.S. PAT. OFF.
THE MASTERPIECE
ABUTMENT GOLDS
for Carmichaels,
and Abutments.
Type C—Hard *
GOLD COLOR
per dwt.—$2.11
GOLD JUSTIFIES DENTISTRY'S BELIEF THAT NOTHING IS TOO GOOD FOR THE HUMAN MOUTH.
Manufacturers & Refiners of Dental Golds
6 West 52nd Street — New York, U. S. A.
* Certified to Meet A.D.A. Specification No. 5.

National Dental Salvage Program

(*Continued from page* 17)

8. Discarded or obsolete laboratory instruments and equipment.

9. Discarded or obsolete appliances and equipment, chairs, cuspidors, bracket tables, furnaces, motors, units, x-ray machines, stools, metal desks, chairs, tables, cabinets, lights, fans, safes and all appliances of discarded technique.

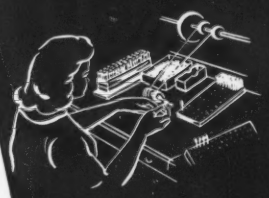
10. Discarded handpieces, straight, right and contra-angle.

11. Tin can containers, (large).

12. Aluminum (mirror handles, old dentures, impression trays, and caps from anesthetic tubes).

Chayes

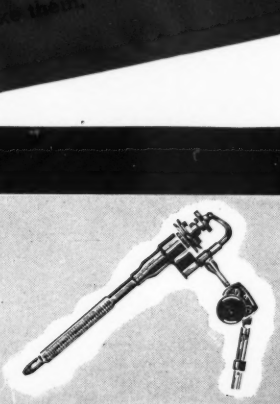
PRECISION
IS BUILT IN . . . STEP BY STEP



Your own precision in the preparation of cavities, in the construction of dentures and in bridgework, is dependent, in large measure, on the exactitude of the instruments you must use.

For the past 30 years, the name Chayes has been synonymous with perfect precision — in Chayes Bridgework Attachments, in mounted points and wheels, in contra angles and in handpieces. That precision is built in, step by step, from raw steel to finished product. Micrometric accuracy is a must; every product bearing the Chayes name conforms to America's highest manufacturing standards.

That's why you can use Chayes Products with complete confidence, safe in the knowledge that they are as effective as it is humanly possible to make them.



Chayes
DENTAL INSTRUMENT CORPORATION
460 WEST 34TH STREET NEW YORK CITY

"TEETH MOVE IN FUNCTION"

13. Any other items containing rubber or metals.

Plan

COLLECTION SHOULD BE CONTINUOUS FOR THE DURATION.

Under the Dental Salvage Plan, in cooperation with the General Salvage Section, Conservation Division, War Production Board, the following procedure will be instituted:

1. All dentists or contributors, whether or not they are members of the American Dental Association are urged to donate the needed material. Dental schools as well as laboratories should be solicited.

2. Salvage Depots or places where scrap material can be deposited should be designated by local committees.

3. Place small items in suitable separate containers (boxes, envelopes).

4. All large equipment and appliances which cannot be easily moved should be listed and the list turned over to the Committee, so that arrangements can be made for the removal to a Salvage Depot.

5. Receptacles where material can be deposited should be placed in professional buildings and meeting places.

6. Proceeds from sale of material to be used to purchase War Savings Stamps and Bonds:

a) Stamps and Bonds to be turned over to the American Dental Foundation, Inc., to be held until date of maturity and then used for some purpose to be decided by the Foundation; or

b) Stamps and Bonds to be turned over to a component or State Society, to be held until date of maturity and then used for some specific purpose.

Reports

Chairmen of State Committees should report to Doctor Henry A. Swanson, Chairman, Committee on Dental Salvage, American Dental Association, Suite 500, 1726 Eye Street, N.W., Washington, D. C., the results of the Salvage Program:

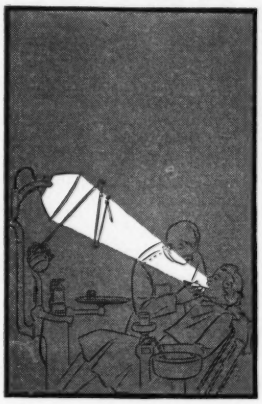
a) approximate amount of scrap collected

b) amount realized from sale of material

c) number of Bonds or Stamps purchased

d) what assignment was made of bonds or stamps purchased.

Keep Contrasts Outside the Office



Some dentists work with a spotlight alone. All day long (and now it's far into the night) they are "in and out" of the light, No wonder their eyes grow tired long before they should. THEY NEED CASTLE MATCHED ILLUMINATION.

←

→

Others work in a partly lighted office with just a shadow-throwing overhead globe, plus a spotlight. It's still too much contrast for easy, efficient seeing. THEY NEED CASTLE MATCHED ILLUMINATION.

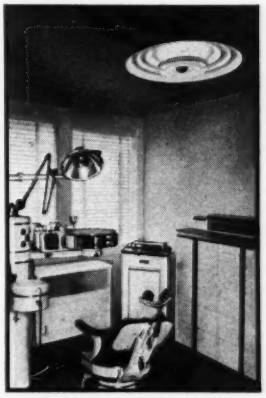
It's All Light Inside the Office with CASTLE MATCHED ILLUMINATION

←

→

Wise dentists are enjoying the eye-saving elimination of contrast and glare that a Castle "G-V" Light gives with a Castle "T-V". It's *always light* . . . day or night. THEY HAVE CASTLE MATCHED ILLUMINATION.

CASTLE "G-V" (General Vision) and "T-V" (Tru Vision) installed for better seeing.



WILMOT CASTLE COMPANY, 1123 University Ave., Rochester, N. Y.

CASTLE LIGHTS

LEE SMITH CERTIFIED IMPRESSION COMPOUND

INSURES BETTER IMPRESSIONS

Lee Smith Certified Compound is an all-purpose impression material highly efficient in general prosthetic work and a variety of other techniques. It requires less kneading to give you smoother texture for greater detail and its flaming and trimming qualities are unsurpassed. Your choice of convenient shaped cakes, ½ pound to the box . . . or tracing stick form, 15 sticks to the box.

Certified to surpass A. D. A. Spec. No. 3

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See page 8 D.D.1

VERNON-BENSHOFF CO.
P. O. BOX 1587, PITTSBURGH, PA.

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Address .....
City .....

See page 9 D.D.1

KONFORMAX LABORATORIES, INC.
BROOKLYN, N. Y.

Please send folder about Konformax.

Dr. .....
Address .....
City .....

See Insert D.D.1

AUSTENAL LABORATORIES, INC.
5932 WENTWORTH AVE., CHICAGO, ILL.

Please send name of nearest Vitallium laboratory.

Dr. .....
Address .....
City .....

See page 33 D.D.1

THE DENTAL DIGEST
1005 LIBERTY AVE., PITTSBURGH, PA.

Here is $1.00. Please send one pad of the Ryan Examination and Treatment Record Chart.

Dr. .....
Address .....
City .....

See page 36 D.D.1

WERNET DENTAL MFG. CO., DEPT. 7-A
190 BALDWIN AVE., JERSEY CITY, N. J.

Please send free supply of Wernet's Powder.

Dr. .....
Address .....
City .....

See page 39 D.D.1

THE DENTAL DIGEST
1005 LIBERTY AVE., PITTSBURGH, PA.

Here is $..... covering ..... copies of YOUR TEETH AND YOUR LIFE.

Dr. .....
Address .....
City .....

See page 40 D.D.1

COLUMBIA DENTOFORM CORP.
131 EAST 23RD ST., NEW YORK CITY

Please send price list.

Dr. .....
Address .....
City .....

See page 41 D.D.1

P. N. CONDIT
BOX 204, BACK BAY, BOSTON, MASS.

Please send information concerning Condit products.

Dr. .....
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RUNNING PARALLEL .

Office Prophylaxis
Home Prophylaxis
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CĒPACOL

Brand of Alkaline Germicidal Solution

DISTINCTIVE ADVANCE IN ORAL HYGIENE

Based on the unique properties of a powerful non-mercurial germicide (a development of Merrell research), Cēpacol fits into your aseptic technic by providing:

RAPID GERMICIDAL ACTION— By standard F.D.A. tests, Cēpacol destroys pathogenic bacteria common to the mouth and throat *within 15 seconds after contact.*

GREATER PENETRATION— Unusually low surface tension permits penetration into otherwise inaccessible recesses of the mucosa.

FOAMING DETERGENCY— When used as a spray or gargle, Cēpacol peptizes and helps clear away the mucous breeding ground for bacteria.

Most important, Cēpacol appeals to your patients because of its delightful, refreshing flavor. Available at prescription pharmacies in pints and gallons.

Cepacol is prepared by the producers of DETOXOL *brand* TOOTH PASTE—TOOTH POWDER

MERRELL
115th Year

Trade Marks "Cēpacol" and "Detoxol" Reg. U. S. Pat. Off.

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See page 42 D.D.1

MCKESSON APPLIANCE CO.
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Please send information on McKesson nitrous oxide equipment.

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Dealer .....

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